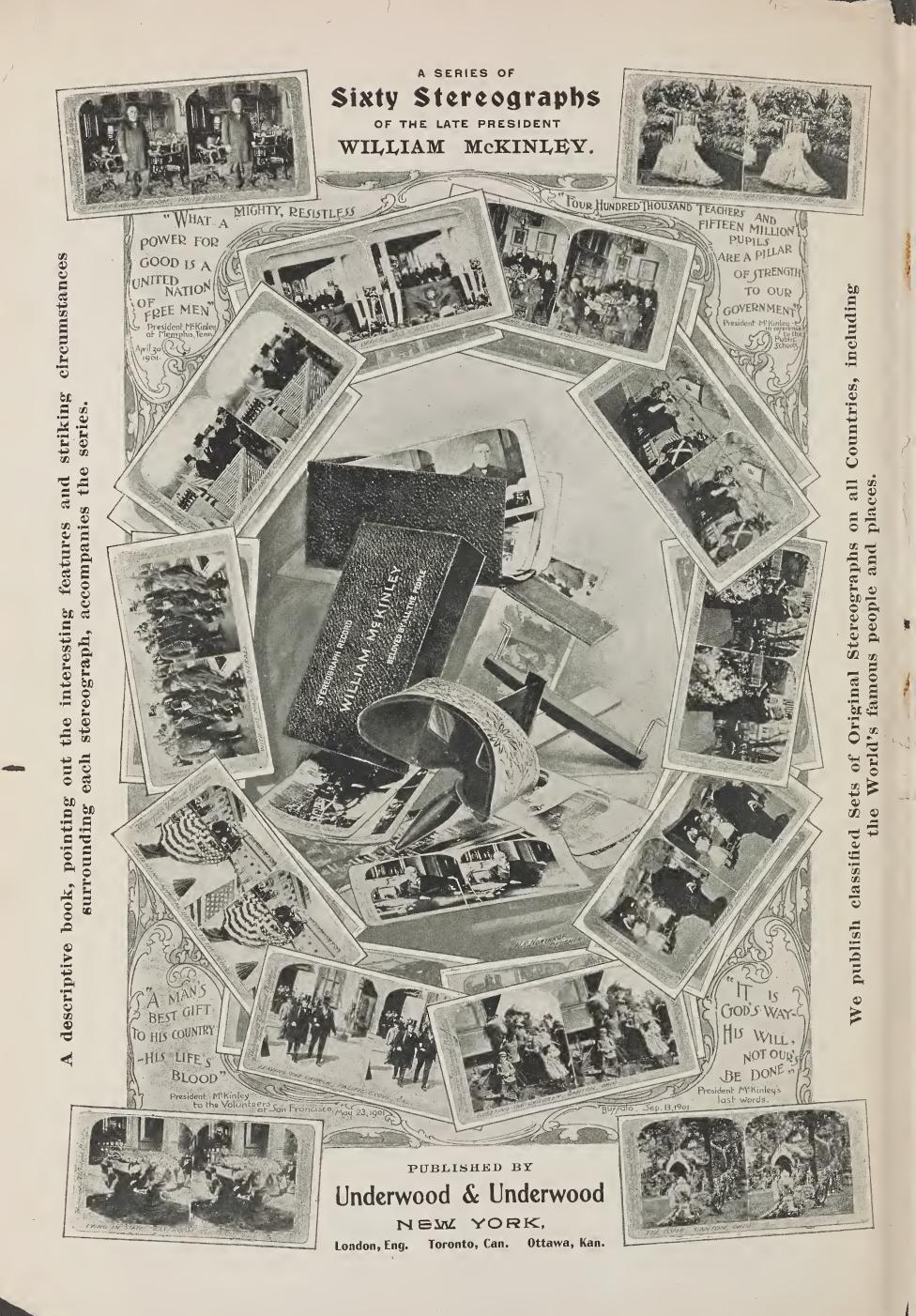
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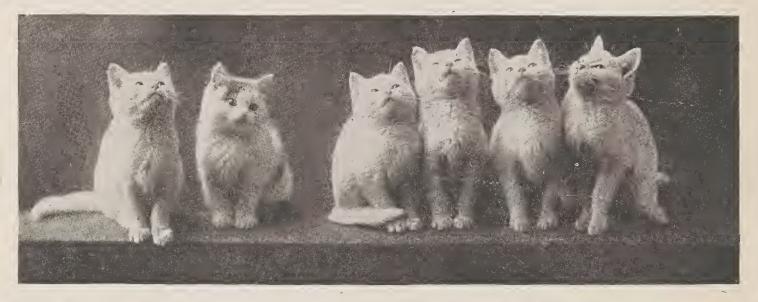
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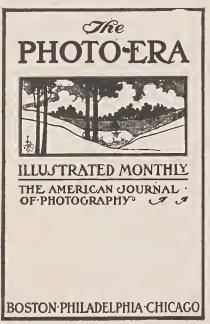
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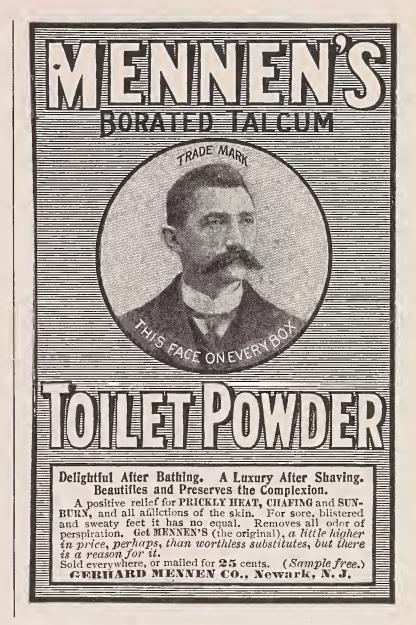
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DANIEL J. ELLISON, D. D., EDITOR.

VOL. II.

JUNE, 1902.

No. 1

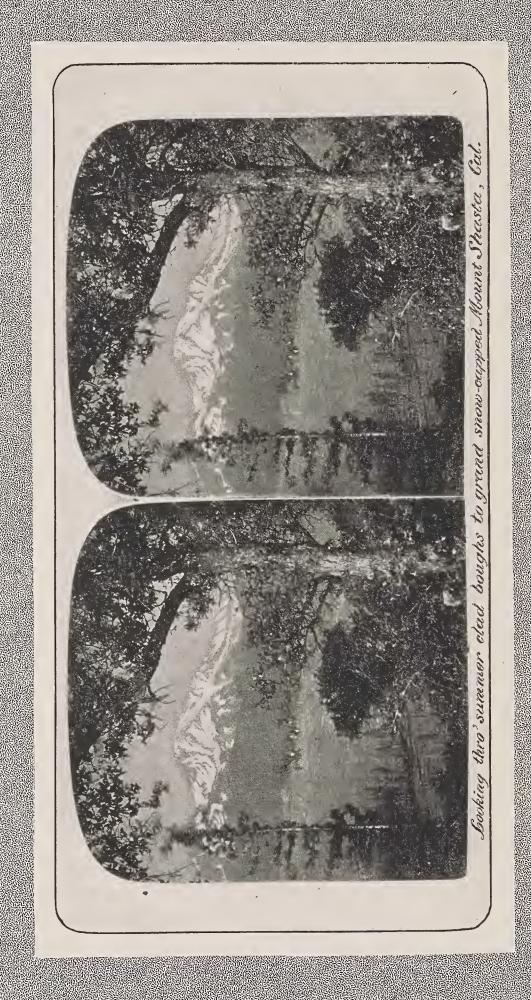


"All the world's brawery that delights our eyes
Is but thy several liveries;
Thou the rich dye on them bestow'st,
Thy nimble pencil paints this landscape as thou go'st."

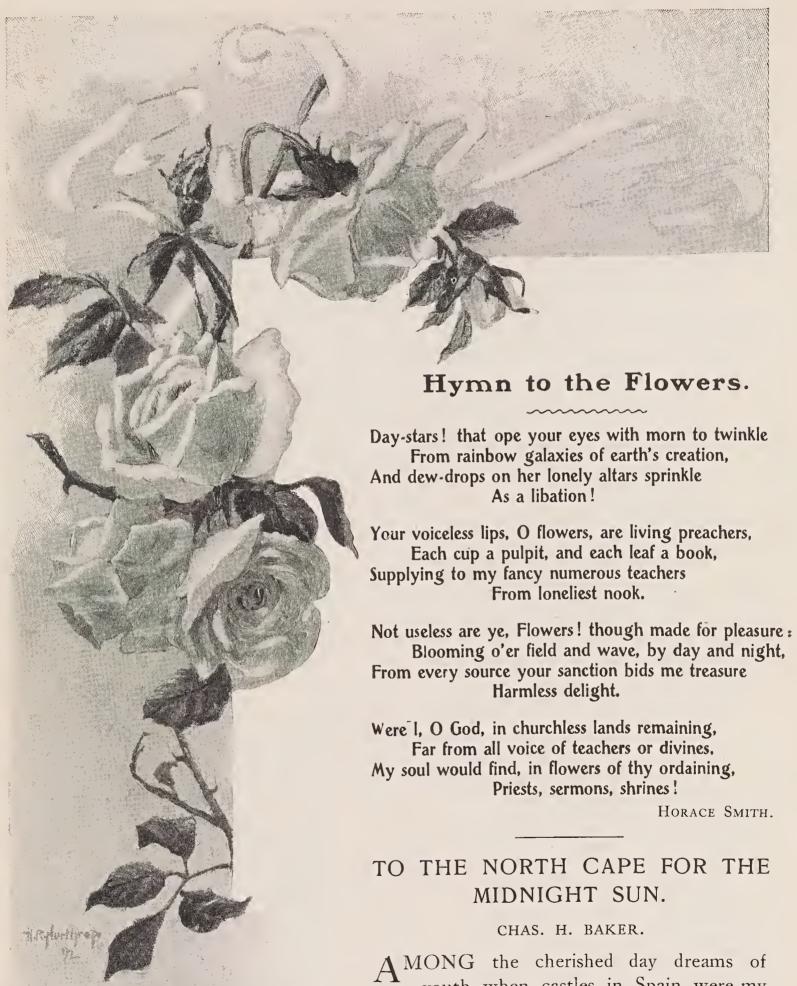
(Crowley's Ode to the Sun.)

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THE STEREOSCOPIC PHOTOGRAPH



youth when castles in Spain were my

most precious possessions, a trip to the North

Cape, the Land of the Midnight Sun, was one of the dearest and, seemingly, the most impossible of all aspirations. The thought of the frozen north gave me a thrill:anybody could sail in a boat across the Equator, but to cross the Arctic Circle required real courage.



After a fight for life among the unmentionable brigands during a summer's sojourn in classic Greece, I found myself booked "rush" for Norway and Sweden. What cool sensations overspread my frame, as I thought of the icy north I was soon to invade. Memories of my old Cornell's Geography at once grew interesting. I had visions of glaciers, packs of ice, limitless fields of snow, browsing reindeer, Esquimaux dripping with blubber sitting on every hummock, walruses and sealion and ptarmigans on parade and begging to be shot and sent to America. Everyone of my friends should have an eiderdown blanket, and I should have a white polar bear skin for my "den" at home; and then the ducks I would shoot! But, oh dear! To begin with, on opening my trunk in Vienna, I found someone had stolen my gun and revolver en route, so I began to think I would be humane, and not hurt anybody. However, I had plenty of powder and shot along, and trusted to

my being able to borrow a gun if the wild beasts became too familiar.

During a short stop in Stockholm, I had great difficulty in going to bed, often finding myself reading in the park in daylight till after eleven o'clock at night without noting the lengthening days. It annoyed me to go to bed before dark. Finally I had to shut the blinds, draw the curtains and light the lamp in order to get sleepy; but it was provoking, even then, to peek out the window and see daylight and people walking about. It made you feel mean to sneak away to bed and steal some sleep with the world still bathed in light and its activities unhindered.

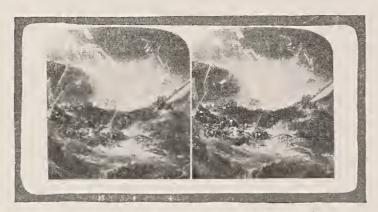
From Stockholm to Trondhjem is eighteen hours ride by rail through a country of varying interest—some places like stretches of landscape in the Connecticut valley, some much like the Minnesota lake-country, and still others like the bare, rolling prairies of Dakota and the pine barrens of Maine. What struck me most

on the trip was that nothing eatable could be bought en route except at regular eating stations, marked on the schedule with crossed knife and fork. 'Consequently these stations assumed undue importance, and were looked for with some anxiety. By the time I reached them, the emblems had turned to skull and cross-bones, especially during the process of digestion. At Trondhjem begins the real northern voyage. The steamer "Neptune" was well equipped, being an ordinary sized lake or coast steamer carrying two hundred or more first-class passengers who spoke an astonishing medley of languages—showing that the spell of the north was felt among all people,—English, American, French, German, Italian, Spanish, Armenian, Russian, Greek, Turkish, Swedish, Danish, Norwegian, Dutch, all had their representatives, though French and German as a fusing medium, were spoken and mixed together amicably, and indeed every thing contributed to make the last "Neptune" boat-load of the season of nineteen hundred and one a very jolly company.

The first stop was at Bode, and so clear was the night that at midnight, I photographed some lady friends who left us for a tramp inland with their big brothers. Our steamer stopped a little while and I walked ashore. The whole town in the half light was up and on the streets, but everything was hushed. No one working, just lounging about, enjoying the night. It was so still that it seemed something must happen. Every noise was abrupt and startling. It was like a country Sunday at five o'clock in the afternoon, but the light was queer. Towards midnight I watched the sun just down below the horizon, to see that he played no tricks on me. There was just light enough to have no shadows. The fishing boats in the bay lay in the mud sides down—the tide was out. The distant mountains that locked the bay

looked black and formless—cut in silhouette against the brilliant sky; the air was heavy—I felt a chill—a breeze, the sky looked redder—the clouds began to brighten, a golden orb rose above the horizon a new day was born—the shadows began to grow, and I felt new life was coming. But, strangely, the town got stiller, the people went home to bed, the streets became deserted. I was alone out there on the rocks. I felt depressed and slowly went back to the ship. I never shall forget that solemn sunrise at Bode. this time on until my return to Trondhjem, I didn't sleep well. My eyes closed sometimes from sheer exhaustion; but light, the luxury of light, of plenty of light, white light, glorious light, light all the time and everywhere, kept me awake and alert. No need of light-houses along the coast; think of it! and, except for foghorn and bell stations, the poor keepers would be out of work half the year. And what a strain it is to keep awake! If the boat would only stop in some dark place and let you sleep! But no, it keeps moving on by interesting localities, and so you see every place in a blaze of light, since in the omnipresence of sunshine there is no night and day at all, and all traces of the day of the week and month is lost, and "what time is it?" changes to "when will the next meal be ready?" It matters not whether it be breakfast, dinner or supper. I believe I could tell dinner, for we had coffee on deck afterward, and at breakfast I had to eat lots of cheese and "obscuret," odd salted food-bits, to get enough from an American standpoint. From Bode the boat turns north-west to the Lupooen Islands, thronged by the fishermen in winter for the herring fisheries. squatty boat-house style of dwellings are hung out over the water, and perched on the shelves under the precipitous mountains that form the backbone of the islands.

They swarm together, end to end, and crowd up the shores of the inlets, wherever a sheltering cove protect them against the tempestuous wintry weather.



The Tempest.

During the inclement season thirty thousand men collect here and live a most precarious life, all of whom are now quietly farming in the interior. Many told me that the fishermen would be better off without the fisheries, so hazardous is the return. All their houses are empty now, the drying racks deserted, everything waiting for the opening of another season. A few families hang about to watch things, and attend to the few stores which sell supplies in the islands; but come in winter, and these places teem with life and bustle.

Between two of the islands is a very narrow passage through which the steamer passes, and on the sides of which the wild birds swarm by thousands. As the steamer approaches, the birds begin to fly, and when just opposite their nesting place, the ship slows up, a gun is fired, and the birds rise like an inverted snow storm and whirl about in giant circles, their cries and flitting wings filling the eyes and ears for a half minute. Soon their circles grow smaller, the cries cease, the birds settle down, the engineer's bell rings "full ahead," the passengers sit down again, novels are resumed, some snatch a much needed sleep, and the incident is finished, not forgotten.

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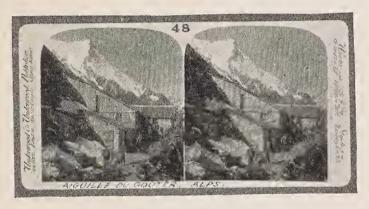
William H. Hayne in the Critic.

SOME STEREOGRAPHS AND THEIR CONSEQUENCES.

M. S. EMERY.

may as well own at once that I considered it a piece of foolishness for Rodney to buy the stereographs of Switzerland. We were poor that year. Rodney's affairs had gone badly so that I could not seriously think, for a moment, of suggesting a "silver wedding journey" abroad (I had counted on it for years though Rodney did not know it); and besides, Mildred had been horribly ill, and you know that sort of thing does make you feel poor just after you have paid the doctor and sent away the trained nurse.

Yes, as I told you, she is much better now; that really is a part of what I am going to relate.



Aiquille Du Gouter, Alps.

Well, as I said, Rodney came home from the office with those Swiss stereographs and I did feel that he ought to have known better. Everything had gone wrong that day. Mildred was in the depths of the blues, knowing that she must lie there in bed for months and months, and I was not equal to cheering her because I had preoccupying troubles of my own. I had just heard about the doings of a set of boys over on Fourth street. They were all near Jim's age and I knew he had been going about with them. No; of course you cannot expect a lively boy of eleven to sit quitely in the house afternoons and evenings while the other boys have their fun going on. I felt sure Jim had not been in the particular piece of mischief that made the trouble, for he spent the whole vacation week at his Uncle Joe's; but how could I tell but he might be hand-in-glove with that Fourth street band the next time they did something outrageous? I was wondering how in the world I could talk to Jim in the best way and get him to give up that set of boys without actually forbidding him to be friendly with them. You see they all belong to good families and there is no real harm in them, but they are at the age when a den of pirates and a secret plot of some kind seems the most interesting and picturesque thing in the world.

It was after dinner that night that Rodney said he had a surprise for me and he began shuffling the pile of stereographs, searching for one particular card. "Do you remember?" said he, and he brought the stereoscope and the card over to my side of the little table. I started to look at the print, as one naturally would, to see what the picture was about. "No, don't look at all until you look through the stereoscope," said Rodney, "You will just believe you are there!"

So I looked through the lens and I truly was "there;" and then I knew why Rodney had been so extravagant. It was a spot in the Engadine where we stood together years,—ages—ago, when we were on our wedding journey. I do not know whether you have been there;—it is a place where you look down across the lakes toward the Maloggia (if only I had those views here now! but one of the High School teachers borrowed the whole set for a week or two;—they are studying glaciers in the geology class;—and so I haven't them here at home; as a matter of fact, they seldom are at home; somebody is always borrowing them). As I was saying, it was the very place where Rodney and I had talked over certain things so long ago; it all came back to me in a moment. It was exactly such a sunny day when we were there, with white clouds sailing in just that way over the valley. I cannot begin to tell you how much it meant. I felt as if I had our "silver wedding journey" after all, and I told Rodney so as soon as I could wipe my eyes. (Aren't we women silly to cry when we are perfectly happy? But that is the way we are made).



Mt. Uri-Rothstock, Switzerland.

There were ever so many other places that we both remembered well and we went through the whole set afterwards at our leisure; but that night the look across the lake to the snowy, misty heights of Mt. Uri-Rothstock was enough for both of us. It actually made us both young again; we lived it all over and reminded each other of all sorts of beautiful things in that journey of ours. I had had no idea Rodney still thought so much about it; you know he is a very silent, undemonstrative man (I am the talker in this family) and I stupidly fancied he had forgotten. He hadn't! It was seeing that dear old place again with him that made me understand him as I never had before. We did have such a good time going over the rest of the "tour" laid out in the stereographs. Of course, it was not identical with our own journey of years ago, but many and many of the views exactly matched our memories. I never would have believed that two bits of glass and one bit of cardboard could give me such a sense of presence among those mountains. You don't see a "picture" you know; you seem to look straight out into space for miles and miles. In fact, one day I found myself thinking: (it was when I was over by the Roseg near some arolla pines on the side of the hill) "How perfectly quiet it is; even those trees are still, as still can be; I should think there might be a wind down there," and then I realized that I had entered into the spirit of the thing pretty thoroughly.

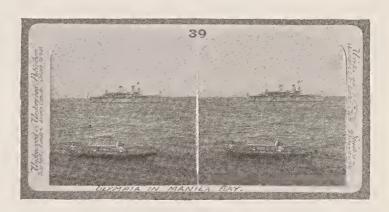
You just *must* have that Swiss set; you would enjoy it all the more for having been over most of the ground already.

I am making this a long story but I do want to tell you about Jim and the boys, because it seems to me there is a great field for such stereographs in boys' clubs and places of that sort. I know you have a good deal to do with the Boys' Club where you live. Jim doesn't care so very much for ordinary pictures and, I am sorry to say, he doesn't care so much as I wish he did for books. It is real life he wants, adventure, you know, and excitement and that sort of thing. Well, when he saw the stereographs, he didn't care a bit for my heavenly valley in the Engadine, but he found a crevasse on one of the glaciers about the Jungfrau where three men were roped together in regular Alpine fashion, and one was just getting ready to leap across while the others braced themselves ready for the possible jerk on the rope. That roused his curiosity and he asked all the questions Rodney could answer about mountain climbing, indeed a good many that he could not answer. Then Jim found more crevasses and guides, the cabin up at the Grands Mulets, and some hairraising snow cornices up toward the summit of Mont Blanc, and, truly, I never saw the boy get so absorbed in anything inside the four walls of a house.

Yes; I suppose the fact was, he felt as if he wasn't inside the four walls of a house, but up there with an axe, chopping footholds out of the ice!

When Jim does take interest in a thing, he is interested all through. The first thing I knew he had been down to the library and told Miss Garrison there about the views, and she hunted up for him Whymper's Scrambles Among the Alps. Then nothing would do but he must have the other boys (he calls them "the gang") see some of the stereographs too. I thought if those boys were to come here to the house, I could at least be sure they were out of mischief for an evening or two; so I told him to invite them in, and Rodney bought two more stereoscopes, because he said it would be slow waiting for turns at one glass. Jim had already managed to pick up a good deal of information about ropes and ice axes, and the way to have nails put into the soles of your boots for slippery climbing,—and the other boys were vastly impressed by his wisdom. One of them—the oldest one of the set—went down to the library afterwards on his own account and got a book called Peaks, Passes and Glaciers. It was a collection of papers by Alpine Club men, full of the most awful experiences, crawling over eighteen-inch bridges of ice above chasms Heaven only knows how deep, and planting flags on famous summits. The next thing I knew there was an Alpine Club in our ward with Jim for president. I suppose the office was a compliment to him as being practically owner of the stereoscopes. The meetings were held in his room, and they spent two or three months seeing Switzerland;—I mean they came to the house every little while for nearly three months. The boys found other books of Swiss travel in the library, and even discovered that guide-books were interesting reading, when Whymper wrote them. They used to give accounts of the adventures they had had climbing the Matterhorn and the Bernina and the Jungfrau, calling each other by the names of the famous mountain climbers. You would have been amused to hear a curly-headed little fellow—only Jim's age—gravely explaining in the character of Prof. Tyndall about how he had to balance himself on a narrow ridge of ice, three thousand feet above a big glacier, holding out his arms like a performer on the tight-rope!

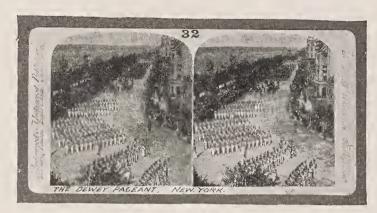
Then a little later the Club made excursions out into the suburbs. I really wish you could have seen the way in which those boys would start off for a Saturday afternoon tramp with coils of rope around their necks, masks to keep their eyes from being blinded by the glare of the snow, and bottles of licorice water to refresh them on the top of Bald Hill.



Olympia in Manila Bay.

That was last winter. The boys got so much fun out of the journeys suggested by the stereographs that this winter they undertook to do some exploration in the Philippines. I don't care so much for scenes in the Philippines myself, but of course the boys would naturally be tremendously interested. Anything that has soldiers in it appeals to a boy of eleven or twelve. Really, I shouldn't wonder if Jim and the others could act quite successfully as guides about Manila. Jim was quite shocked the other day over a mistake I made in regard to some of the buildings—he knows them all,—and the other boys

have been looking up all the books and magazine articles they can find that tell anything interesting about the people and the way they live there.

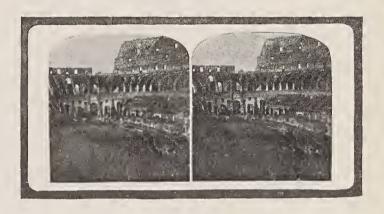


Dewey Parade.

Yes, it *bas* been a good deal of trouble to have the boys here so much; boys are always noisy running up and down stairs, and they do get so hungry! I couldn't count the cookies and apples that have disappeared during some of the sessions of the Club up in Jim's room; but if only the boys will come here to the house instead of carrying Jim away into I-don't-know-what—apples and cookies are very small offerings to express my gratitude.

I meant to tell you about Mildred too. She was beginning to get dreadfully discouraged about herself just at the time when we first had those Swiss views. She read a good deal and that helped to fill up her days, but what she longed for was something new, something to take her thoughts quite out of herself and her immediate surroundings. To my delight I found that it did not tire her to use the stereoscope, (it is very light to handle), and there is so much to see in each one of the stereographs that a set of one hundred means absorbing interest and occupation for weeks. The Morrisons over on the next street bought a set of Italian views at the same time that we had those from Switzerland, and after a while we exchanged; Mildred was specially delighted with the Italian views, they gave her so many new things to think about and reminded her of so much reading she would really like to do in one direction and another that she actually found her days more than full instead of having time hang heavy and dreary on her hands as it had before.

She even invited the boys into her room one evening and gave them the most interesting versions of some of the old stories that center around the Roman Forum. She can tell stories well, and the boys were delighted. I know they had had an idea, before that evening, that she was something of a ogre, because they had been warned on her account not to clatter on the stairs and not to slam the doors; but since they had that little symposium over one or two of the views in Rome, she and the boys are the best of friends, and one of them,—the one I used to dislike most on Jim's



"The Colosseum."

account,—brings her books from the library and all sorts of trophies from the woods.

The whole family have had a share in the pleasure of those views. We have found it so interesting to lend our possessions back and forth between here and the Morrisons', that we are thinking of getting up a little club on the principle of a Book Club, several families combining their funds and buying various sets or selections of the stereographs, to be kept in turn by the different families for so many weeks at a time. We haven't made all the arrangements for it yet, but I am sure we shall do it in the fall when we are making plans again for winter evenings.

THE TEACHER AND THE STEREOGRAPH.

WILLIAM E. LONG.



The Corn Belt of the Great West.

WE are living in an age of discovery. The realm of science was broadened more in the last three decades of the century just closed than in all the other seven; and authorities tell us we are only getting glimpses of the dawn of organized knowledge.

Advances in a science witness development in the corresponding art. Sometimes theory, sometimes practice, takes the initiative. But certain it is the world is not only coming to *know*, but to *do*.

Possibly there is no branch of scientific research which is receiving more attention and in which more progress has been made than in pedagogy. Necessarily difficult and complicated, it presents obstacles to dogmatic conclusions and arbitrary methods not always encountered in scientific work. Realizing this, it is only the growth of a profound conviction of the intrinsic merit of the stereograph as an educator, that prompts us to submit the thoughts of this article and the ones to follow in subsequent issues of this periodical. And it is because the writer has been and is being favored with many unusual opportunities to test the actual results (as far as it is possible to test mental states) of the use of the stereograph in the schoolroom, that it is felt that a statement of these results may be of benefit to those interested in education.

Many of the experiments to which we shall refer were developed under the skill-

ful guidance of intelligent principals and teachers, whose sympathy and cooperation we wish to acknowledge. And it shall be our purpose to interest, as far as possible, these experts in the work of collecting and tabulating the data which in their judgement will be helpful to others.

Let it be understood in the beginning that it is not our province now, to enter into a technical discussion of the principles of optics and psychology underlying the extraordinary effect of the stereograph. We shall assume that this effect has been experienced by our readers, and in the event that anyone should desire information of the kind mentioned, reference is made to the article "Extraordinary Results to be Gained from Stereographs," by Mr. Osborne, in the March issue.

The stereograph consists of two photographs taken simultaneously from points two or three inches apart. When these photographs are properly mounted and viewed through a stereoscope of the same focal adjustment as the lens in the camera, the result is one which defies any verbal description, other than to say it is, with certain limitations, a reproduction of the original scene. For the mind has reacted on the two photographs in exactly the same way as it would interpret the original scene, and here is the third dimension—an appreciation of depth and space, and, as in the case of certain Swiss stereographs, we see far out beyond the foreground, across the distant mountains to the towering summit of the Matterhorn. We see the glacier, feel the imminent peril of the yawning abyss, or gaze in wonder at the canyon, the result of ages of the river's ceaseless toil. Our view is obscured by the smoke of blast furnaces, we watch the farmer at his work, and three miles underground behold the miner as he hazards life to give the world its coal. We are permitted to see Nature as she is—primeval forests,



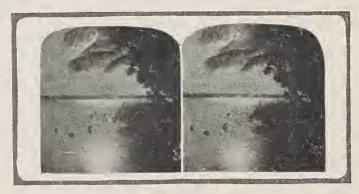
"Aig Du Tacul." Alps.

cascades, winding rivers, animals, plants, rocks, trees—all things worth seeing made visible to him who will but look.

It is a significant fact that we have yet to meet the educator who does anything but praise; for the value of the high grade stereograph to the pupil is at once apparent. He is now no longer tyrannized over by his narrow confines of city streets, or the horizon beyond the hills of his country home; but he can see what appearance would be presented by a cotton field; he can appreciate the height of Eiffel Tower, he can visit Mr. McKinley in the President's office. Here is a mine of information of untold wealth. Shall our boys and girls not have access to it?

But aside from the information—that is the acquisition of facts—offered by the stereograph, there is another source of good, which it would seem, suggests even greater possibilities, and that is the emotional effect—the state of feeling produced. We have found that almost invariably the child who studies a stereograph of a glacier for example, is impressed by the size of the mountains, the bleakness of their summits, the danger to the traveller in these regions. That is, he feels, as we have often heard them express it, "just as if he were there." Then, aside from the fact that he knows more about glaciers than he ever knew or ever could have learned in any other way excepting by the tourist method,

he has widened his range, he has increased his culture, he has enriched his life. Henceforth, if he, perchance, may learn that certain cities were destroyed by Vesuvius, he comprehends it, for he has looked into the yawning crater; should he be told that the King of England has been crowned, he will understand better for having seen the coronation chair; when he learns that a great discovery has been made in astronomy, his mind images correctly the Lick Observatory with its ponderous telescope. His range is the world, and here is the end to the limitations of the accidents of fortune and environment.



Tropics.

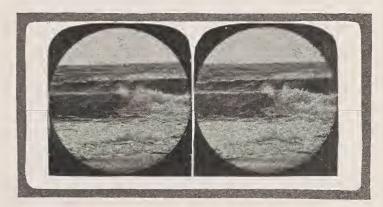
And then, here is an opportunity to stimulate and cultivate the powers of observation. How many of us could go around the world and yet be, as Bayard Taylor said regarding a cane which had accompanied its owner on many travels, "a stick yet." "We have eyes yet see Examine the modern common school curriculum and you will be immediately impressed by the prominence given to what is called "Nature Study." What does this mean other than the significant fact that educational authorities realize that it is not enough for the child to have eyes, but he must be taught to use them. So, long excursions are recommended, and it is certainly not our purpose to disparage them, for they have an important place, but of necessity they must be limited in number and in the distance travelled.

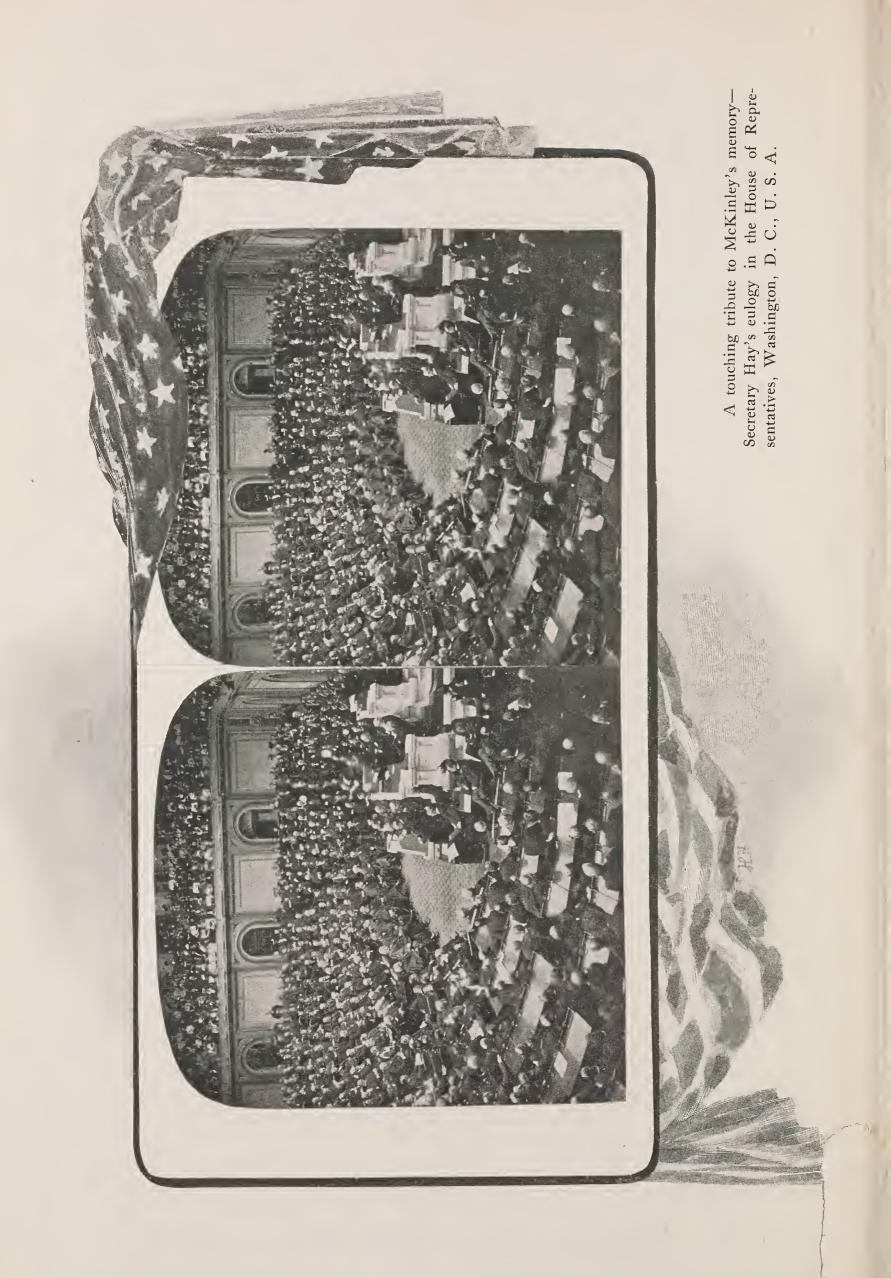
The observation work of the stereo-

graph will naturally be correlated with language exercises in various forms, and we have been especially impressed by the overcoming of embarrassment and the ability to express thought when the mind is thus emancipated from its everyday environment, and the child has something to say. We find some teachers emphasizing the development of expressional powers at an early age of the pupil. Others seem to feel that this work should be postponed largely until the development of the critical faculties. With this question of theory we are not now properly concerned, but the teachers who are making intelligent use of the stereographs express themselves as being gratified with the increase in facility of expression corresponding to a widening of the vision and extension of the field of thought.

Before concluding this article it would seem relevant to add a word regarding the comparative pedagogical value of the Stereograph and the Stereopticon. Unquestionably each has its field, one perhaps, as has been said, a deep field, the other a wide one. That is to say that while the stereopticon method will enable the lecturer to cover a considerable amount of ground in a comparatively short time, the stereograph is incomparably better for an intensive study of any particular part of the earth's surface. And then, aside from the more formidable difficulties attending the use of the stereopticon, it has been observed that the pupil rarely, if ever, develops a sense of location in the place represented, as he does in the stereograph. With his eyes in the closely fitting dark chamber of the instrument he loses sight of everything except the life-like reality before his mind, and thus a degree of mental concentration is effected which is secured by a stereopticon view if at all, only at isolated intervals. Thus, the student is deprived in the stereopticon of what is perhaps of more value to him than the addition to his store of knowledge—namely, the emotions which his actual physical presence in the place reproduced would have caused. We are confident from what we have seen, that this is a matter of profound importance, and worthy of the thoughtful consideration of all teachers.

And, finally, the stereograph is a practical application of a scientific principle and is in no sense a toy. This thought is suggested by the occasional appearance of a tendency to regard the stereograph as an ordinary mechanical device, which finds its purpose in the amusement and diversion, rather than in the instruction and education, of students. We submit that "Sun Sculpture," the term applied by Dr. Holmes to stereographs, offers a natural method, essentially different from instruction by the ordinary picture; and that the fundamental reasons for the difference will occur to the most casual observer. And it may be necessary also to guard against the natural error of regarding the mental effect as illusions, magic or enchantment; for such terms invariably convey an impression of unrealness, approximating absolute misrepresentation. The didactic value of any method or device consists in the permanency, healthfulness and educational force of its mental results; and experience has demonstrated in the lives of hundreds of people that results of the most desirable nature are attainable by the stereograph. Here is the Hesperidean fruit, and shall we value it the less because there is no dragon to be slain?





A GREAT OCCASION WORTHILY PRESERVED.

IT is extremely fortunate that events of international importance and world-wide interest can be preserved in permanent and realistic form, so that when they are past, people everywhere on the round globe may view them as vividly as though they had stood on the spot from which the stereograph was taken and actually looked at the scene represented.

Perhaps the most remarkable stereograph ever taken is the one reproduced on the opposite page. It had long been thought that it was impossible to take a stereograph in the House of Representatives at Washington during a session of Congress; and, considering the fact that it is an interior-a time-exposure-where there was a chance for considerable movement, it may be viewed as a valuable trophy of the stereoscopic art,—a remarkable achievement. The occasion is the Memorial exercises, McKinley through the stereoscope can be recognized in this vast concourse of distinguished people, the President of the United States, seated in a high back leather chair in front of the Speaker; and beside him, His Royal Highness, Prince Henry of Prussia, at whose right are the members of the Cabi-In the front row across the aisle from the President, are the Justices of the Supreme Court of the United States, with Chief Justice Fuller nearest the President. Back of the members of the Supreme Court are seen the foreign Em-Ministers, with Lord bassadors and Pauncefote, Dean of the diplomatic corps, next to the aisle. In this same row can be distinguished Minister Wu of China, while in the front row and beyond the Supreme Court Justices are the officers of the Army and Navy. Everywhere on the emulation.

floor of the House that is visible to us, can be recognized scores of Senators; while the Representatives are to our left, but outside the limits of our vision.

Such a scene as this is absolutely indescribable. It must be studied through the stereoscope to be appreciated. historic old hall is crowded to the very doors of the galleries. It is a scene that rarely occurs, even in the history of a great The nation's chief has been nation. foully murdered, and the most distinguished people of the country have come together to show their respect for the memory of their fallen leader. Secretary Hay is delivering an eulogy upon the life of the late President, and as his tones, trembling with emotion, sweep out over the vast throng and fill the great auditorium, these men are stirred and saddened by the thought of their departed friend and comrade. The memory of the three martyrs, Lincoln, Garfield and McKinley, and of all the vast and mighty influences streaming from their lives, rush in upon them and tend to make the occasion one of deepest solemnity.

The value of such a stereograph is only realized when you consider what we would give if we could only see, in this same manner, the memorial services held in this hall upon the occasion of Lincoln's death, and be able to look upon the famous men of those troublous times, whose names illumine the darkest pages of our national history.

This McKinley Memorial Service stereograph ought to be in every home and in every school in our land, for it teaches lessons of the highest wisdom and reveals a patriotism worthy of the most strenuous emulation. THE STEREOSCOPIC PHOTOGRAPH.

GYPT STEREOSCOPIC THOI

PART IV.

RELIGION OF THE EGYPTIANS.

CHARLES N. CREWDSON.

Corresponding Secretary of the Chicago Society of Egyptian Research.

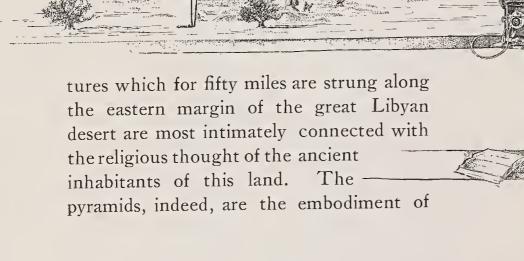
YESTERDAY I climbed the Great Pyramid, and as I found myself becoming conscious, in a very practical way, of the immense size of this wonderful monument, I repeatedly asked myself this question: What was the religion of the Egyptians which could inspire them to build such a marvelous structure, and one which even in this day of stupendous undertakings wins the wonder and admiration of the world? For answer, my two Bedouins who helped me ascend, snatched me higher and higher.

The Bedouin are rather obstinate when one wishes to take their pictures as they are squatted about the corner of the pyramid; they cover up their heads when some traveller attempts to photograph them in order that they may make him give them for the privilege a money present—"bakshish," they call it. But when they begin to drag the traveller up this huge structure they are downright stubborn, so great is their haste. This almost takes the reverence out of a fellow; yet jerked, tugged and pushed along as I was, I could not but say to myself "Why this pyramid?" The long line of these mighty stone struc-

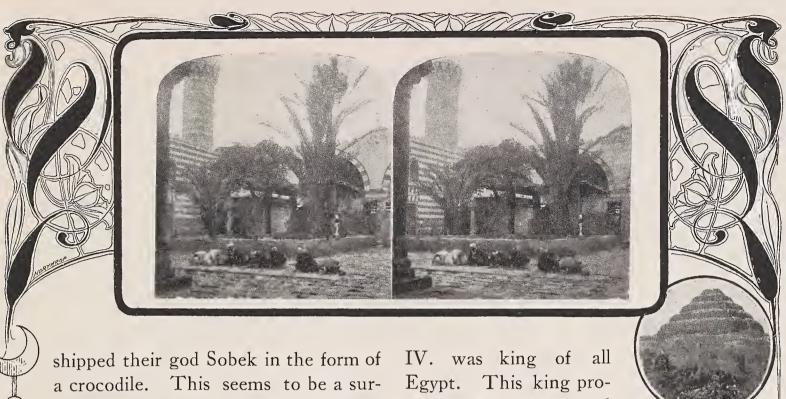
one great religious thought among the ancient Egyptians.

Egypt in its early political history was divided into many small districts called "nomes;" each of these "nomes" had its own local nobleman and each its own local god. Neither nobleman nor god were supposed to have any power outside their That is, each own local jurisdiction. "nome," we may say, had its own particular religion. At Memphis, Ptah was the god of the district of which Memphis was the chief city. The people believed that this god was a great potter who fashioned the egg from which the world was hatched. Likewise at Thebes the local god was Ammon.

The form in which these gods were worshipped was usually that of an animal. Ptah, the Memphis god, was worshipped in the form of a bull, which showed special marks always necessary to identify him. Ammon was worshipped in the form of a ram, and in the Fayum the people wor-







Worshipping in the Mosque of Sultan Barkuk Cairo.

vival of totemism, a belief in an animal god as a tribal protector, a belief still current among many Indian tribes. When the people thus had some special animal for their god, they sacredly revered it, and in a latter period would not even kill an animal of that kind.

As people migrated from one of these local districts to another, this brought about a confusion in religion which makes its study very difficult at the present time. The Egyptians moved from one "nome" to another and, in doing so, carried the worship of their various gods with them. The god of a people in a certain powerful "nome" which contained many inhabitants would, sometimes, supercede the god of a weaker "nome," owing to numerous incomes from abroad. Thus the worship of Osiris was widely spread; Ammon the god of Thebes and Re the sun-god were likewise revered over almost all of Egypt at certain times. Another thing that caused more confusion was identification and combination by which gods originally different were merged together and identified, causing compound names like Ammon-Re.

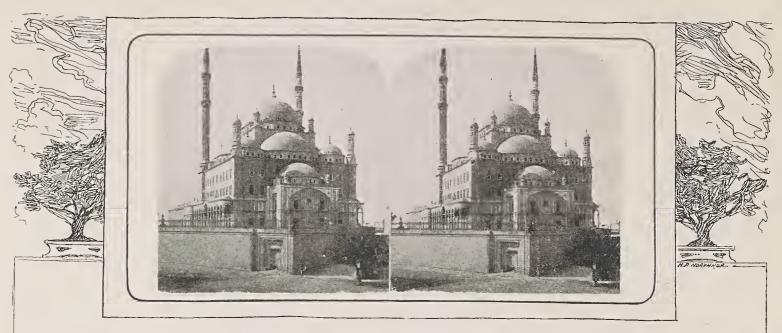
 Γ his latter god, Re, played a great role in the eighteenth dynasty when Amenhotep claimed Re the one god of all Egypt. He cut the

name of Ammon from all the monuments and moved the capital from Thebes, where Ammon was shipped, and even went so far as to change his own name, which contained Ammon to Ekheneten, "brightness of the sun." This one-god idea which Amenhotep attained, was a marvelous achievement for his age. In a hymn written on a tomb wall at his new capital his god is called "the living sun beside whom there is no other." The hymn states that this god created all things, the far-off heavens, mankind, the animals, the birds; our eyes are strengthened by his beams; when he shows himself all flowers grow and live; at his rising the pastures bring forth; they are intoxicated before his face; all the cattle skip on their feet, and the birds in the marshes flutter with joy, uplifting their wings in praise to his face. This is indeed a beautiful conception of a deity.

Yet after the death of this great religious reformer the priests of Ammon, whom he had all but destroyed, rose in their might and restored the old religion of empty formalism.

From now on it was necessary for the

Mosque Mohammed Ali, Cairo.



Ammon with greater gifts than those which he granted any other god. The amount of these gifts in a few generations after the death of Amenhotep IV. was something colossal. A record of them under Rameses III. occupies a roll of papyrus a hundred and thirty-five feet long. It is such gifts as these which brought forth the vast temples on the upper river of which I shall have something more to say.

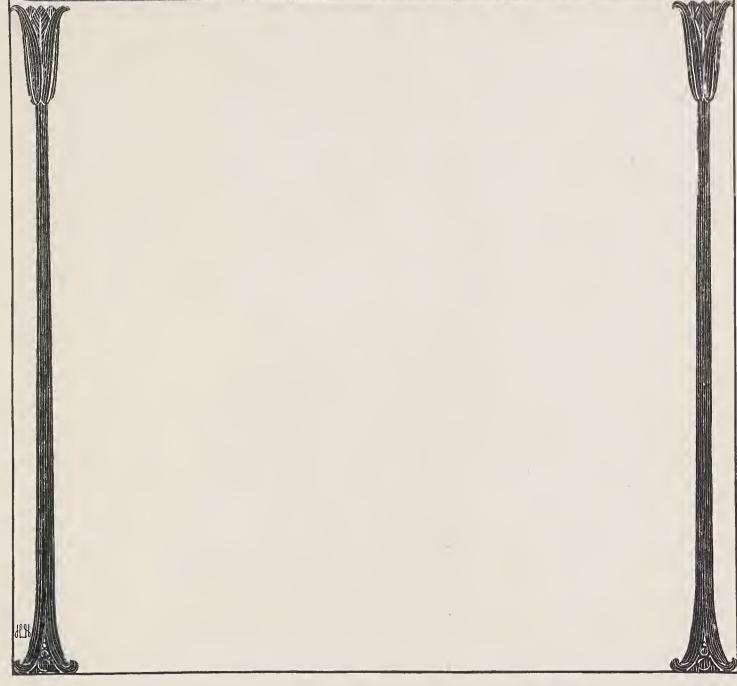
One main idea which runs through all the religion of the Egyptians is their belief in a hereafter. This idea took different forms in different localities. Some believed that we should exist after death in the stars; others that we might come forth and perch in trees with the birds. To many, Dwat, the kingdom of light, was the home of the dead. This was divided into twelve sections corresponding to the hours of the night and was hidden somewhere behind the western desert. The peasants loved to think that they would go to the beautiful, fertile fields of Yaru where without labor they could raise wheat seven cubits high and where they could sit forever in the shade of sycamore trees. Some believed that there was in the underworld somewhere a great judgment hall where forty-two judges, with Osiris as chief judge, tried the cases of all souls. There Thoth placed the good deeds of the dead man in one side of the great scales and the evil deeds in the other, and the dead must abide by the decision of the scales. In order to influence these scales to be favorable, there were certain powerful magical charms which could be repeated. These charms and many other similar magical forms were at first painted on the coffin, but they became so numerous in the later period that it was necessary to write these magical speeches on a roll of papyrus which was then placed in the coffin. It is this roll of mystical forms and charms, a kind of magical guide book for the hereafter, which we have called at the present day, "the book of the dead."

I also went into an old tomb. At the entrance was a flight of steps leading down into a subterranean passage hewn through solid rock. At the end of this passage I found a chamber and in the chamber a big stone sarcophagus. Above I followed a narrow passage which led to a room on the walls of which were carved and painted the figures of men and women engaged in all sorts of labors and enjoying all sorts of sports. In one corner I discovered a narrow slit in the wall. Looking through this I saw a stone statue. What did all this mean?

The Egyptian believed that when he





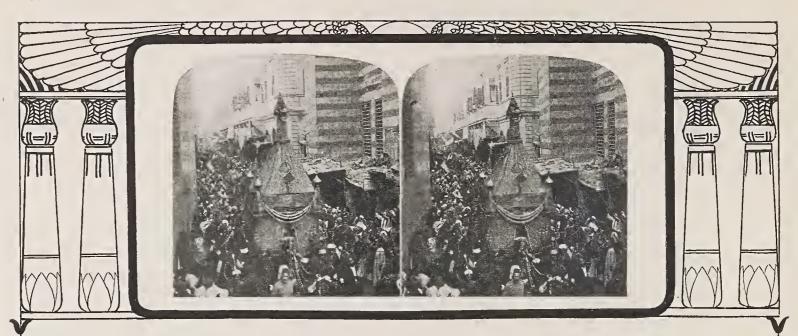


Pyramid

of
Cheops
from
the
Nile
Valley



The Holy Carpet Parade, Cairo. Starting for Mecca.



was born there also came into the world with him a double of himself, his Ka as he called it. In life the Ka always attended the body, and in death it remained in the tomb with the body. The existence of this double was to the mind of the Egyptian quite as important as his own; in fact it was a part of Therefore the Ka had to have a him. place in which to live and he had to be fed as in life. The survival of the dead man in the hereafter depended therefore upon the preservation of the body and the Ka. It is to this strange belief that we owe the mighty tombs of Egypt as the place of deposit of the body and the dwelling-place of the double or the Ka.

Of course in the earliest times the body was deposited simply in a hole scooped out in the sand on the margin of the western desert. Over it was piled a heap of sand within which were placed jars containing food and drink for the double. This was the custom practiced among all early peoples. It is probable that in the attempt to prevent his sand-heap grave from being carried away by the winds, the early Egyptian piled rough stones about it. His modern descendant resorts to the same means in the desert cemetery outside his squalid village of mud huts. Gradually, as civilization developed, these rough stones enough sustinence also to feed the everbecame pyramids of carefully hewn masonry.

Beneath this masonry the body was laid in a rock-hewn chamber, reached by a shaft descending perpendicularly through the masonry and into the native rock beneath, sometimes as far down as seventy-five or eighty feet. Here, then, in this deep chamber, the body now embalmed was carefully laid away. The double lived in a room built for it in the masonry, and beside this room there was another in which the Egyptian placed what may be called a false body. For they feared lest the real body should be destroyed and they therefore hewed out of stone a false body, that is, a portrait statue of the dead, which was practically imperishable and might take the place of the real body if the latter should ever suffer destruction. This is the statue which I saw through the slit. The first chamber where the double is, which you may call a chapel, is the room where I saw the human figures carved on the wall. This room was open to any passer-by in the ancient days, and here food, drink and clothing for the double were placed. For this purpose wealthy men even left endowments. Of course this custom had to be abandoned in the case of generations long since dead. For while the land of Egypt could easily support the living, it could not furnish multiplying dead. But here the priests



came to the rescue. They made imitations of food,—alabaster geese, pottery loaves of bread, porcelain joints of beef, etc. These, when put into the tomb chapel were converted by the magic of the priests into the real thing and served the same functions.

This masonry tomb which we have seen here gradually rising out of the sand heap, is called by the modern natives a "mastaba." Its outside walls slant inward at an angle of seventy-five degrees and is flat upon the top. It was a very easy transition for the latter kings to fill out these terraces with masonry at the pyramid angle of fifty-two degrees, and thus the pyramid form was obtained.

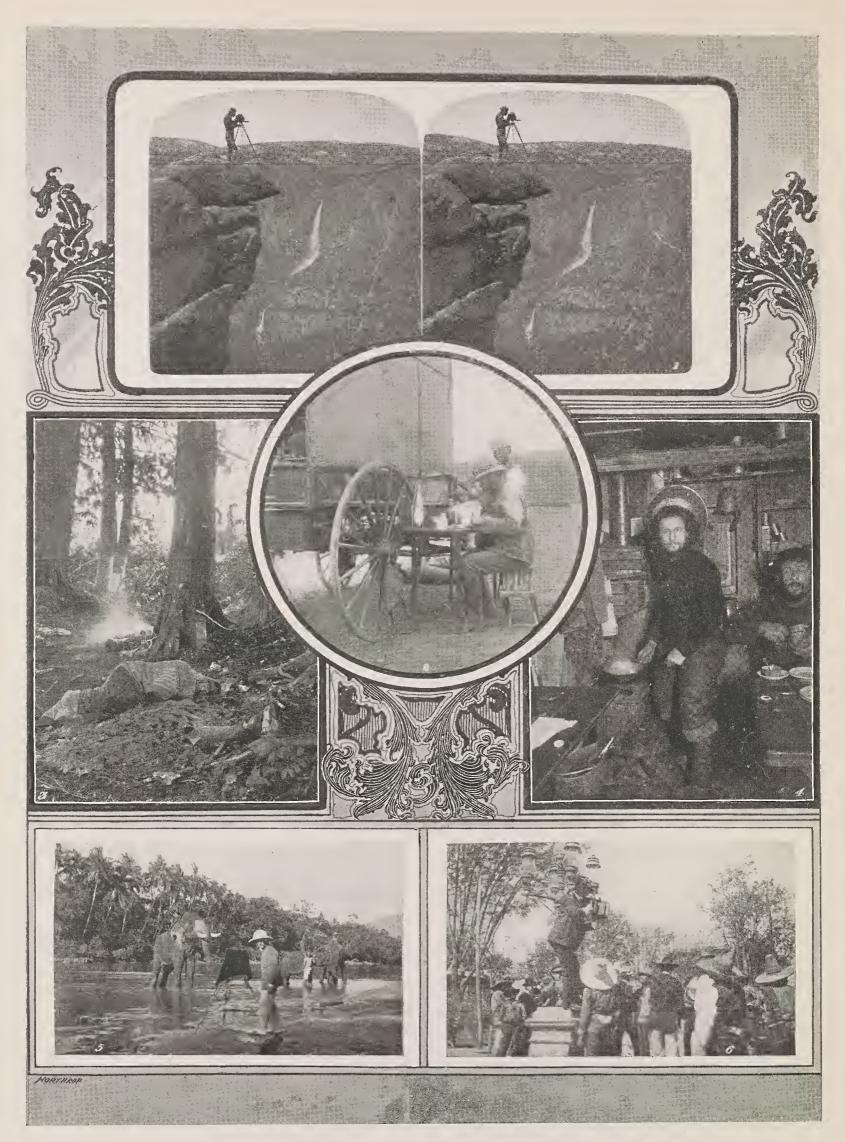
The greatest of all pyramids was built in the fourth dynasty, 3000 B. C.; one of the group of three which now stand at Gizeh. This immense mass of stone is now seven hundred and fifty feet square on the base, covering about thirteen acres; its height is now four hundred and fiftyone feet. It contains over three million cubic yards of limestone, and a hundred thousand men working in three month shifts for twenty years were required to build it.

To enter the great Pyramid I ascended to the eighteenth course of masonry, some fifty-seven feet above the ground. At this point a narrow descending passage leads four hundred and fifty odd feet down to an unfinished subterranean chamber in the solid rock beneath the pyramid. Ninety-two and a half feet down this passage its roof is pierced by an ascending passage filled at present with granite plug rocks around which ancient tomb-robbers have cut their Ascending this for a hundred and twenty-two feet one reaches a level passage a hundred and twenty-five feet long, leading into the heart of the pyramid to a chamber known as the queen's chamber, though for no special reason. Returning from the queen's chamber along this horizontal passage, one reaches a magnificent ascending hall one hundred and fifty-seven feet long and twenty-eight feet high with its masonry joints so exquisitely set that they are practically invisible. An antechamber at the top at last gives entrance to the king's chamber a hundred and thirtynine and a half feet above the ground. It is seventeen feet wide and thirty-four feet long and nineteen feet high. present this chamber contains the sarcophagus of King Khufu, who built the tomb for his sole use, but robbers have broken away the corner of the sarcophagus, and have carried away the body and all the great treasures of royal ornaments which were buried with it.

Above the king's chamber are five more which we may call construction chambers because they have only a constructional function. They were put in to help support over three hundred vertical feet of solid masonry rising above the king's chamber, which the architects feared might crush in the roof. They are crowned by a peaked roof of limestone beams which receives this enormous downward pressure and distributes it to the sides. Wise indeed were the architects; for in 27, B. C., an earthquake actually shattered all of the immense granite blocks which form the present ceiling of the king's chamber.

The architect who planned the pyramid built well if not wisely. This great monument as it stands between the burning sand of the Libyan desert and the verdant valley of the Nile, between death and life, its mighty outline eternally imaged upon a cloudless Egyptian sky, will always be a Mecca to which all travellers will wish at some time to make a pilgrimage.

Note—For the matter contained in this and in the three preceding articles, the author wishes to acknowledge his indebtedness to Prof. Erman, Prof. Petrie and Dr. Steindorf, from whose writings he has gained much information; but especially to Dr. James Henry Bredsted, of the University of Chicago, whose lectures have been so valuable to him, and who has kindly corrected many errors in his original manuscripts.



1—Mr. H. H. Strohmeyer on the overhanging rock on Glacier Point, looking north-west toward the Yosemite Falls, Yosemite Valley. 2—Mr. F. H. Mackern and outfit on the march with Lord Roberts on the way to Pretoria, South Africa. 3—Mr. Strohmeyer sleeping in the great forests of the North-West. 4—Prof. Kahn, of Dr. Stein's party, cooking in winter quarters at Fort Magnesia, near Cape Sabine, Ellesmereland. 5—Prof. Ricalton and elephants near Kandy, Ceylon.

STEREOSCOPIC PHOTOGRAPHERS IN THE FIELD.

STEREOSCOPIC PHOTOGRAPHERS IN THE FIELD.

THE EDITOR.

COMPARATIVELY few understand that skilled stereographers are more than mere itinerant photographers who go into all parts of the world to secure original stereoscopic negatives. It is true that a successful stereoscopic photographer is necessarily a photographic genius, but he is also much more; he is an innate artist, resourceful, a man possessed of tact and sound judgment, of a daring nature, with no end of determination in his make-up, able to endure all sorts of physical hard-Moreover, since the proposition ship. which confronts these men is to get original photographs of everything in the world that is best worth seeing, both for pleasure and study, they must have a wide knowledge of ethnology, geography, history, art, etc.; and, in addition, be conversant with several different languages. ideal stereographer must be a man of great presence of mind, affable, yet dignified; alert, yet deliberate. He must be able to adapt himself to the middle as well as to both extremes of society, for while at times he has to do with the common people, who make up the masses of the population in every country, being forced to make himself at home among the humblest peasants or to rough it with the most primitive savages, he not infrequently finds himself in the company of Presidents and Kings. The splendor of affluence and the pomp of power do not overawe him, danger and poverty do not overwhelm him, pleasure cannot enthrall him, for his thought is bent only upon obtaining results that will be eminently instructive and pleasing.

Up-to-date stereographs are so amazingly vivid and realistic that, to the eye, they cease to be mere representations, and become almost actual *reproductions*. So life-like do they appear, that, in gazing

upon them, we are unmindful of the fact that they are photographs, and therefore it is not surprising that we are oblivious of the man behind the camera. personality of the unseen stereoscopic photographer pervades the entire stereograph giving to it its distinctive character, and imparting to it an individuality, since a very real something of the operator himself has entered into the make-up of the landscape or subject before you; and this personal equation is as much a part of what you see as are the rocks or persons which form the physical elements of the scene presented to your view. To produce the best sort of a stereograph, therefore, requires ability of the highest order. Such, in brief, is the character of the men who overcome almost insurmountable difficulties in outof-the-way places of the earth, from the land of the midnight sun to the torrid, fever-stricken coasts of the tropics; who treck into the heart of the desert, or fearlessly brave the dangers of the battlefield, that we may possess the wonderful windows to the world which reveal to us in all their reality, the grandeur of nature, the characteristic life of all lands, the historical places that throb with the memory of mighty deeds wherever wrought, and the history-making current events, all of which are very truthfully portrayed in the stereograph.

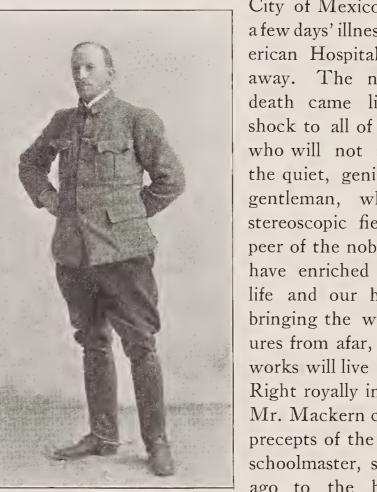
Photographs of the most eminent stere-oscopic photographers at their work, are shown on the opposite page. At the top of the page the foremost stereographer, Mr. H. A. Strohmeyer, is represented on the overhanging rocks of Glacier Point, looking northwest toward Yosemite Falls in the Yosemite Valley. Mr. Strohmeyer accompanied the late President McKinley on his Western trip, and was also one of President Roosevelt's party to the Charles-

Exposition making a stereoscopic record of the President's visit South. Beneath this stereograph on the right is Prof. Kahn of Vienna, who spent a year touring in the almost unknown regions of Ellesmereland, and who is shown cooking dinner in winter quarters at Fort Mag-To the extreme left is seen Mr. Strohmeyer sleeping in the great forests of the Northwest, and back of him you observe his camp-fire brightly burning. Beneath this is a view of Prof. James Ricalton, famous as a war stereographer, for he carried his camera to the front in the Philippine and Chinese wars, and in the

latter he often charged with the firing line. view represents Mr. Ricalton and a group of elephants near Kandy, Ceylon.

But the central position, the place of honor in the group; is given to Mr. H. F. Mackern, also a celebrated war stereographer, who accompanied Lord Roberts from Cape Town to Pretoria in the South African War. In this central picture he is shown taking his noon-day meal beside his outfit, while the army was on this eventful march. His adventures in the South African war were more thrilling than those of any war correspondent,

for he had to occupy more perilous positions in order to secure valuable stereographs of the troops in action. He was an ideal operator, having courtesy, culture, persistence, a man who valued not his own life in the pursuit of his calling. After leaving South Africa he went to Portugal and Spain, stereographing their famous places, and, in addition, the King of the latter country. Two months ago he set out for Mexico, a land in which he was deeply interested, for he spoke Spanish fluently. His work here was eminently successful, some of the prints received from him being the most remarkable ever produced of that fascinating country. In the lower right-hand corner of the illustrated page we see him taking stereoscopic photographs in the Capital of Mexico. Excellent as was always the character of his work in Africa, Spain and Portugal, that accomplished by him in Mexico surpassed all previous efforts. But, before his task was completed, he was stricken with disease in the



MR. H. F. MACKERN.

City of Mexico, and after a few days' illness in the American Hospital, he passed The news of his death came like a cruel shock to all of his friends, who will not soon forget the quiet, genial, cultured gentleman, who in the stereoscopic field was the peer of the noble men who have enriched our schoollife and our home-life by bringing the world's treasures from afar, and whose works will live after them. Right royally in his life did Mr. Mackern carry out the precepts of the old English schoolmaster, spoken long ago to the boys of his graduating class:

"Who loses or who wins the prize, Go, win or lose it, as you can; But if you win or if you lose, Be each, pray God, a gentleman!"

How little do we realize as, in our own homes, we view the world's wonders through stereoscopic windows, at how great a cost of money and effort and oftimes of human life these marvels of realism were produced.



SPENT but one day in Ostend before beginning my walking-tour through Belgium. I went first to Bruges, then on to Ghent, and finally reached Brussels, a city that I enjoyed more than any other I visited on the continent of Europe. My chief object in walking from one place to another was to save money, but I knew also that in this way I would see more of the peasantry and their way of living than if I travelled from one large city to another by express trains. It went very hard with me at first, for although I had always walked more or less and had covered many miles a day while in London, I wasn't much used to country roads. The sun, too, was very hot, and sometimes I felt that I couldn't possibly walk further. My feet were badly blistered at the end of my first week, and so sore that I hesitated about trying to walk any more. After a while, however, I became thoroughly accustomed to the work, and could easily cover twenty or twenty-five miles a day if I cared to do so. I had many interesting experiences in the little villages through which I passed, and I am sure I saw a great many things which never come in the way of the average European tourist.

HE WORLD'S

CELEBRITIES.

I remained several days in Brussels and then pushed through Northern Belgium to Amsterdam, in Holland. When I reached this city my

money was rapidly diminishing. My expenses had been considerably heavier than I thought they would be, and I saw that if this rate was kept up I would have to return to London a great deal sooner than I wanted to go. So in Amsterdam I looked about for some work by which I could add to my stock of funds. I called upon the American consul, who gave me the address of a large manufacturer of china who has an English department in his business. When I called at the factory I was asked if I could use a typewriter, and I told them that I could. So they gave me work for several days at typewriting circulars which they were sending to their English customers, and they paid me enough for the work to help me on considerably.

From Amsterdam I travelled through a

part of Holland into Germany, and this was the country I enjoyed more than any other I visited, except England. I found the people pleasant and hospitable; the country was so beautiful, especially along the Rhine, that it was a real pleasure to walk from one place to another, and better than all, the living was very cheap indeed.

My chief difficulty in Germany was with the language. It was always hard to make the Germans understand what I wanted by means of signs, and I sometimes found myself in queer predicaments on account of my lack of the language. They didn't seem to catch my meaning as readily as the Belgians and Dutch had done. In Cologne I had one experience which illustrates a great many others of the same kind. I was passing through a side street, and saw in the window of a shop what looked to me like the white vanilla taffy which they sell on the streets in New York. It was broken into pieces, and looked so good that I couldn't help buying some. I made signs to the woman in charge, and handed her some money, and she, not knowing what I wanted it for, gave me several pieces. I went out very happy and had eaten nearly a whole piece when the taste began to have its I'm sure I never ate anything quite so sickening. I went to a fountain and tried to wash the taste away, but it remained with me until the next day. I decided that this couldn't be vanilla taffy after all, and I decided to save the rest of it until I met some person who could speak both English and German. When I met such a person I was horrified to have him tell me that it was not candy at all, but a kind of disinfectant. "If you had eaten much of it you would now be a very sick boy," he said.

After that I was at least careful about what I bought to eat, for I learned through this experience that appearances

are often deceptive.

It was my custom, on entering a German village at nightfall, to say to the first pleasant-looking person I met in the street the word "schlafen." I didn't know exactly what the word meant, but I knew that it must have something to do with sleep, for when I used it I always succeeded in getting a bed. One evening I entered a beautiful little town on the banks of the Rhine, and meeting a pleasant-looking woman, I made my usual signs and said "schlafen." She laughed and called a boy to take me somewhere across the town. We stopped in front of a long, low building, upon which were the words "Herberge zur Heimath." I had no idea of the meaning of the sign, but I went inside, and found myself in a long front room, which was filled with men and boys of every description. There were two blind men and one cripple, and I thought at first that I must be in an infirmary of some sort. But after a while I noticed a great many young men with knapsacks, who seemed to be travellers, like myself, and I then felt more at home.

Upon the wall of the room was a printed bill-of-fare, and I saw that for a very few cents I could get a better meal than I had had for some time. I ordered something, and it turned out to be clean, well-cooked and wholesome, and when I had finished eating I made up my mind that this was certainly the best place I had found yet. When we had all eaten supper, the landlord came in from the kitchen, with his apron on, and his sleeves rolled up, and read us a selection from the Bible. Then those who were able repeated the Lord's Prayer in German, and when this service was finished he brought out a book in which we all signed our names and selected our beds for the night. They had beds in the place for four cents, six cents and eight cents. I selected a six-cent one that first night, because I was afraid to try the four-cent ones in the beginning. When we had all registered, we were conducted upstairs to bed, and I found that I was to sleep in a room with five others. Before he left us, the landlord examined us very carefully, evidently with the idea of finding out if we were clean enough to sleep in his beds. was the only thing I did not like about the place, and I regretted that I couldn't speak more German, or I would have told him that I'd been properly disinfected in Cologne, and that he needn't bother about me. But I doubt if that would have been a good excuse.

We were all awakened at the same hour in the morning, and after washing ourselves in a trough of water on the roof of the building we went downstairs to another prayer service. Then we had bread and coffee for breakfast at the small charge of two cents, and most of the men started out on their day's tramp. By a sign upon the wall, I learned that these "homes for the friendless " were to be found in almost every village in Southern Germany and in parts of Switzerland, so afterward, when I reached a village at nightfall, I always inquired for the "Herberge zur Heimath," and by living in these places I was able to keep my expenses down to a very satisfactory point.

From Germany I went south into Switzerland, and while there I had many experiences, pleasant and otherwise. I was of course delighted with the country. It was more beautiful than any I had ever imagined before, and I enjoyed walking from place to place among the mountains. I had no difficulty in finding my way as long as I kept to the beaten paths, but when I once attempted to reach a certain glacier by a supposed "short-cut," I came to grief. I was without food one whole day, and was lost from ten o'clock in the

morning until after dark at night, when I stumbled on a hut with a light in it. This experience, though unpleasant, was valuable to me in many ways. It taught me that if I was to explore any Alpine glaciers I had better wait until I had money enough to hire a guide, and after that, in travelling over the mountains, I was content to keep to the beaten paths.

In Berne I was fortunate in securing an interview with President Frei, whom I found to be a most interesting man. He was easily approached, and he told me a great many things about his experiences when, as a young man, he came to this country and enlisted as a private in the Union Army. He fought through the Civil War, and afterward returned to Switzerland, where he worked himself up by degrees to his high position.

It was in France that I had the most unpleasant experiences of my whole trip. I had looked forward to visiting that country with pleasant anticipation, because I had gained the impression that all the people were excessively agreeable and polite, and that the climate was everywhere as warm as at Nice and Monte My first disappointment was in the climate. It rained almost every day I spent in travelling through the eastern provinces, and when I at last reached Paris I was suffering from a bad cold which I had contracted through exposure to the wet. Some of the people I found to be as unpleasant as the weather, and certainly the Eastern provincials were the most inhospitable persons I had met anywhere.

One reason why I was anxious to reach Paris as soon as possible was because my money was almost gone. I had just about seventy cents when I finally entered the city, and almost the first thing I did was to visit the express office to which my mail was forwarded. I felt sure there would

be some money awaiting me from the American papers, but the clerk handed me just two letters. One was from home, and one was from the old lady at the inn where I had worked in London. Neither of them contained any money, and I realized that if I was to exist many days longer I would have to hurry about and find work of some kind. I didn't feel particularly discouraged over this state of affairs. I had been lifted out of a great many bad situations during the trip, and I felt confident that this thing would also end in some good way. I went out and rented a lodging, which the landlady didn't make me pay for in advance, and during the next two days my meals cost me very little money. I had carried with me from Chicago the little coffee-pot and the alcohol lamp I had used there, and I was able to prepare everything I needed in my room.

It wasn't very easy to get work in Paris in the late Fall. I visited all the English and American stores I could find, and it was only after much trying that I finally secured a place in an American jewelry store for three weeks at four dollars a week. I was very glad indeed to get the place. I lived very easily upon the four dollars, and before I returned to London I received money from one of the papers there, and was finally able to get through all right. But there were a few days when I felt very poor, and I made up my mind to return to London and sail for America as soon as possible, for after several months of this travelling under difficulty I was anxious to get back to a place where I could be sure of a night's lodging and of where my next meal was coming from.

Before leaving Paris I succeeded in having an interview with President Faure, who is now dead. I had hoped, since he was the President of a republic, that he would be an easy man to get at, but I found that he lived in the Elysee Palace,

the only entrance to which is guarded by soldiers, night and day. I went several times to the gate, and tried to make the soldiers understand why I wanted to go in, but I couldn't speak sufficient French, and they refused to let me pass. several efforts of this kind I decided that the probable reason why I was kept out was because I was a boy, and didn't present a very impressive appearance in my five-dollar suit. I noticed during my visits to the gate that people arriving in cabs and carriages, or people who were very well dressed, were allowed to pass in without being questioned, and I finally determined to try a plan of that kind myself. I hired a dress-suit one evening and drove up to the gate in a cab. Sure enough, the change in my appearance made all the difference in the world, and I was allowed to drive in without being stopped by the soldiers.

Once inside the gate, my troubles were over. I sent in a card to the President, was received, and found him a delightfully interesting man. When I explained the means I had adopted to gain admittance, he laughed, and said he thought it was just like an American boy. He told me about his experiences when an apprentice to a tanner, and how he had worked himself up, step by step, and I felt well repaid for my efforts in securing the interview.

My second stay in London proved to be even more pleasant than my first. After my tour of the continent, I had more to write about for the papers than before, and the editors paid me enough for my articles so that I was able to save quite a sum of money, beside paying my expenses. And before returning to New York I obtained interviews with some famous people whom I had not seen before. Among others, I went one day to the Mansion House to see the Lord Mayor. He had read some of my articles, and when

he heard that "the American Boy Traveller" was outside, he sent for me to come in. I found him dressed in a long, purple, velvet robe, trimmed with gold, and other ornaments, and I couldn't understand why he was wearing it until he explained that he was about to go into the Mansion House Court, over which he presides on three days of the week. He was pleasant to talk with, and after I had been shown over the Mansion House he surprised me by saying that if I cared to I could sit beside him that day on the Bench in the Mansion House Court. He said I might enjoy seeing how an English court is conducted. I knew this would be a new experience, so I accepted his invitation, and all that day I could see the reporters and lawyers and prisoners in the court room below, looking up and wondering who that boy could be. That evening some of the papers said they wondered what this American boy would be doing next, and one of them asserted that I would probably be seated beside the Queen at the opening of Parliament, if she were there.

But I didn't wait for Parliament to open. I was very anxious to get home in time for Christmas, so I purchased a first-class ticket on one of the fast liners, and sailed for New York. I might as well have come second-class, and been nearly as comfortable, but I wanted to return in the best way possible, just to show the editors and my friends that I had been able to get along without any help from them and without any money from this side. And I think one of the proudest days of the trip was the day on which I stepped down from the first-class gang-plank in New York, and found one of the reporters there to meet me. I took care that he saw which gang-plank I stepped down from, and one of the first things I did was to go to the office and ask the editor why he hadn't sent me the money for the articles he used. He surprised me by saying that he thought it would be much more interesting for me to be over there without any money from this side, and that there was a better story in it, now that I was back. I told him that it was always interesting, but not always pleasant. He paid me then for the articles, however, and said that he guessed I had earned a place on the paper, so the first object of my trip had been accomplished, and I had secured a start in newspaper work.

Before beginning my work in New York, I went West to the little town in Illinois from which I had originally hailed. I found quite a crowd at the station to meet me, and that evening there was a public reception for me in the church of which I was a member. I told them about my experiences and interviews in Europe, and since that time the mothers of the town may have had difficulty in keeping their small boys from starting abroad with twenty-five dollars. But since I've been back I have done all I could to prevent any one from going with so little money. I am quite sure I would never have gone in the first place if I could have looked ahead and seen what I would have to pass through before my return. My nerve would have failed me. But it is now all pleasant in retrospection, and I hope that some of my experiences will prove encouraging to other young men who are starting out in life, for certainly the trip proved conclusively that it is possible to accomplish wonders through perseverance,—the most valuable quality any man can have.

We call the attention of every one interested in stereoscopic photography to the important announcement which will be found on page 6. If you have any ideas in regard to this subject that interest you, they may be of value to others.

THE SHORTCOMINGS OF PHOTOGRAPHY.

THE EDITOR.

IT is a familiar saying, and one which to many of us has always seemed self-evident, that the camera cannot lie. Like Washington, the Father of his Country, it has a reputation for veracity that is well nigh unimpeachable, for by the





skilled prestidigitator does with the magical handkerchief or the

pack of cards. An example of trick photography is the photographing of a person in a bottle. Now it will be readily understood that no studio is possessed of a glass bottle large enough to contain a human being. How, then, does this thing come to pass? It is a simple matter, as indeed are most tricks when they are understood. In this case a single plate is used and the person to be taken is placed in front of a black background and taken with an exposure just long enough to bring out the form and features distinctly. Then the empty bottle is placed against a dark background and after adjusting the focus so that the object first taken may be well within the lines of the neck, bottom and sides of the bottle, a picture is taken on the same plate, at just twice the time exposure of the person photographed. When the plate is developed the bottle comes up first, with the photograph of the

Such tricks however, are not praiseworthy, since they vulgarize a noble art,

person appearing inside.

aid of the sunlight's unerring fingers it is supposed to record the truth, the whole truth and nothing but the truth. And yet it must be acknowledged that, in the strictest interpretation of the phrase, the unaided camera, for various reasons, does not produce true and reliable representations of any scene or object.

I am not referring to the remarkable results which are produced by simply taking advantage of the elementary laws of perspective or of the countless manipulations of the instrument which clever and ingenious operators are in the habit of practicing, in virtue of which members of the fair sex inclined to embonpoint are depicted with fairy-like forms, and the thin man with the single dimension of the geometrical line—length, is made to appear with rounded proportions and athletic physique. The man behind the lens can perform tricks with the camera just as the

and are clearly indicative of the shortcomings of the man behind the lens.

But it is of the shortcomings of the camera with which we are especially concerned, shortcomings which, when viewed through the stereoscope, become marvelous in their ability to portray the object or the scene represented with all the vividness of reality. As an illustration of the truth of this statement, I would direct your attention to the stereograph "Sweet Sleep," which is here reproduced. As you see it is made up of two single photographs taken from two different points of view—in this case about two and a half inches apartand each brings out forcibly the shortcomings of any single photograph. An examination of this stereograph will convince you that photography, unaided, produces only distorted and inharmonious representations, that objects in the foreground are exaggerated, while those in the background are minimized, since in a collection of objects no two planes are in perfect focus at the same time. The person thus represented is a man of normal size, fairly well proportioned, but this photograph shows his feet as of monstrous size, extending nearly two-thirds of the distance to the top of the photographic print, and his head is considerably smaller than it should be. The effect of the whole is to give the impression of unsightly deformity; there is nothing natural and proportional about it.

The same is true in regard to the first stereograph shown here. For the hand to the right appears but half the size of the one to the left, and yet both hands of this lady are in reality the same size. reason the hand on the left seems larger is because it was nearer the camera.

Viewing these illustrations, we forcibly impressed with the remark of Prof. with people is that they do not recognize proportion and perfect in detail.

the inefficiency of one-eye vision, they give it credit for more than it really is." It is only in objects whose size and harmonious proportions are perfectly familiar to us as the various parts of the human body that we readily recognize the exaggerations and distortions which make up, to a large extent, the shortcomings of photography.

But now behold a marvelous transformation! Place the stereograph of the sleeping beauty in the stereoscope, and what a change! Everything falls into its normal position, located at just the right distance from the eyes. Whereas before, you viewed everything as disfigured, because seen on the same flat surface, now you get depth to the picture, and hence the charm of reality. The feet assume their natural size, the body is elongated in space to just the proper length, the head takes on harmonious proportions, and the various parts are now harmonious, realistic, life-size, and as vivid as though we stood where the camera did and looked with our own eyes upon this sleeping figure. The same is true of the lady's hands. In the stereoscope they are both the same size, and are as graceful, delicate and life-like as any lady's hands need be. The transformation is remarkable and it speaks of the immeasurable superiority of the stereograph, when seen through the stereoscope, over all other pictorial representations.

The reason for this marvelous change can be scientifically explained, but that subject is too extended and intricate to be treated in this article. At some future time we shall be glad to refer to it again, but our one desire just now is to emphasize the all important fact that the camera needs to be supplemented by the stereoscope if you would obviate its shortcomings and present to the eyes of men life-Judd, when he says that "the great trouble size, realistic representations, exact in



A SIGNIFICANT ANALOGY.

ALBERT E. OSBORNE.

THE telephone and the stereoscope are two instruments which stand alone, both with relation to the principles upon which they are founded and the experiences which people are able to gain from them. We get in connection with the telephone through the one sense of hearing an experience that is analogous to that gained in the stereoscope through the one sense of sight. Our experience is no more unusual, no more extraordinary, in the one case than in the other.

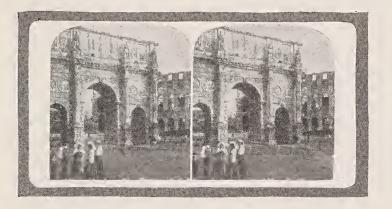
Let us consider for a moment the principles upon which the telephone is founded and our experience while using it, our experience, for instance, while we listen in New York to a friend who is talking in Pittsburg. The friend in Pittsburg talks into the transmitter of his telephone, and certain waves of air come from his lips and strike a piece of thin metal in the transmitter, setting it in motion. Just back of this piece of metal is a wire with an electric current running through it. As the metal piece in its vibrations comes closer to the wire, it induces a stronger electric current there, as it moves away, the current diminishes. Then almost immediately these differences in the force of the current are transmitted through a long distance wire to the New York end of the telephone. At this latter place, the wire containing the electric current runs near another piece of thin metal which is connected with the receiver which we hold to our ear. As the electric current in the wire increases in strength, it has more power to attract, as it diminishes, it has less power to attract this piece of metal, and, consequently, the metal is set in motion and its vibrations, as we can readily understand, must be similar to the vibrations of the metal piece in Pittsburg. As a consequence, waves of air are started by the metal piece at the New York end of the telephone, which are in all essential respects like those which come from the man's lips in Pittsburg. What now is the result with relation to our experiences? Why, we are able to distinguish in these air waves coming to our ear

from the metal piece a few inches away, the very words spoken by our friend. These air waves make essentially the same impression on the nerves of our ear as would the air waves started in Pittsburg. We can distinguish the peculiar tones of our friend's voice, and not merely that, but he seems to come close to us. No matter if we do know that his body is not brought near in the telephone, nevertheless, we have a distinct consciousness of his real self being near. We feel we are in his very presence. Our thoughts, our feelings, the whole state of our consciousness is, not that we are in the presence of a machine which gives out articulate sounds, but in the presence of a human soul.

Now we will leave the telephone for a time and turn to the stereoscopic instrument and consider the principles upon which it is founded, and our experiences in connection with it. First the photographer places his stereoscopic or two-lens camera before some part of the earth. Rays of light or ether waves, reflected from every part of the scene, rush through each of the two lenses of the camera and impress an image of the place on each half of the stereoscopic negative. This negative is developed, and these images are transferred by all the infinite accuracy of the sun's rays to the stereograph. The two images on the stereoscopic card are then placed before us in the stereoscope, one photograph or image before each eye. These photographs are now capable of reflecting light into our eyes, of starting ether waves which are, in all important particulars, like those the real scene reflected into the camera. Thus images are impressed on the retinæ of our eyes, which are in all essential particulars like those which would have been impressed on our eyes in the presence of the real scene.

So much for the physical aspects of the stereograph. What are the inner experiences resulting from its use? First of all, the mind refers these impressions back, not to the flat

photographic prints on the cardboard a few inches away, but to different distances (which vary according to the scene), many feet or rods or miles back of the cardboard. Any one who has thoughtfully observed stereoscopic photographs, knows we have represented before our mind in the stereoscope a space which stands out in all the three dimensions of width, height and depth, like the real place stretching away before the camera. And not only that, but, as we have tried to show in these columns before, it is possible for a person to obtain in the stereoscope a definite sense or consciousness of geographical location in that part of the earth which he sees represented before him. Many have supposed that it was impossible for a person to get an experience of location in a distant country except by going there in body. This is a Though we may be sitting in our chairs at home, still it is possible for us, as we look in the stereoscope, to have an inner experience of location in that place in a distant part of the earth which we see in representation before us. Now when we get this sense of location in a certain place represented in the stereoscope, it means that we have gained, not merely the same visual impressions in all essential respects that we would get if there in person, but also part of the very same feelings we should experience there. It means that we are in a state of emotion appropriate to a place in Rome and its surroundings, for instance, rather than the state of emotion that would result from being in our every-day home surroundings before a picture of Rome.



The Arch of Constantine, Rome, Italy.

only difference in the feelings experienced in the presence of Rome itself and in the presence of Rome as shown in the stereoscope, is a difference in quantity or intensity, but not a difference in kind.

For a fuller discussion of this experience to be gained in the stereoscope, of being in the presence of the place itself rather than in the presence of a picture of the place, reference must be made to an article entitled "Extraordinary Results from

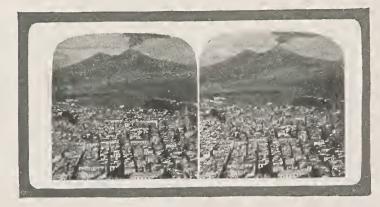
Stereoscopic Photographs," in the March number of this Magazine.

There is, however, one difference that we should notice between our inner experiences in connection with the telephone and the stereoscope; that is, that, a person comes to us in the telephone, while we go to the place in the stereoscope. We have, in a previous article, suggested a reason for this difference in our sense of location in these two instances when we said that what we see more than anything else gives us our sense of location. When we use the telephone, we see our own room about us, but according to the sound in our ear at the telephone, our friend in Pittsburg is close to us. Though this conflicts with what our eyes see, and with what we know to be the facts with regard to the physical sides of our nature, still we cannot disregard this testimony of our ear any more than we can disregard the testimony of our eyes. Our friend's voice sounds as if he were near and that is sufficient to induce the states of consciousness that he is near. But since in fixing our location what we see is more important than what we hear, our (composite) inner experience is that we stay in our room and our friend comes near to us there. On the other hand, when we use the stereoscope, as we have already pointed out, the hood about our eyes shuts our room and all our immediate surroundings away from us, and shuts us in with the scene standing out behind the stereoscopic card. If now we know by the help of maps where on the earth's surface this scene is located, then we may have a distinct sense of our location there. In this instance our inner experience is not that the place has been brought to us, but that we have been taken to the place.

Let us now turn to the telephone and examine in more detail our experiences while we stand with the receiver to our ear, listening to our friend in Pittsburg. According to the testimony of four of our senses, touch, taste, sight and smell (though taste and smell can be ignored under such circumstances), we are in the presence merely of some metal, wire and rubber in our room. We cannot reach our friend with our hands. His body is many miles away, over mountains, forests and cities. We cannot see him. As far as these senses are concerned, he is absolutely separated Through these senses it is as utterly impossible to communicate with him as with a man on Mars. Now we put the telephone receiver to our ear. Instantly we know the words our friend is speaking. Marvelous change! We hear of a sorrow that has just come to him, and we are touched with sympathy. Or it may be he laughs; we laugh also.

How can we reconcile these seemingly conflicting facts? According to the facts of the physical world, our friend is hundreds of miles away, entirely separate from us, and we are merely in the presence of waves of air coming from a piece of metal, and yet it is no less a fact that we are in his very presence. To put it simply, the explanation is as follows. Through all our life when certain air waves have struck our ear, it has meant that a human soul with all that we know a human soul to be, was close at hand. So now, even though we know the air waves come from the telephone only, we still, in accordance with our habit, have the old responding state of consciousness, feeling and all, that we are listening to a man.

Let us now consider in more detail our experiences while sitting in our room, looking at Italy through the stereoscope. As far as the testimony of four of our senses is concerned, touch, taste, smell and hearing, we are merely in the presence of pieces of glass and pasteboard in our room. We cannot reach out and touch Italy with our hands. It is a long way from us. Many hundreds of miles of tossing waves separate us from its shores. We cannot taste any olive growing there, nor smell any flower beneath its sunny skies, nor hear any



Naples and Vesuvius, Italy.

> sounds in its crowded city streets. Through these four senses, we are absolutely separated from Italy. Now we bring to our eyes the stereoscope with a stereograph of Rome from Mt. Pincio, for instance. At once we know what is in that part of Rome. We can count the windows in the houses, we can count the lampposts around the Egyptian obelisk in the Pincio Plaza. We can see the very grain in the stone blocks which are bathed in Italian sunlight almost within reach of our hands. We can see the way St. Peter's raises grandly above all its surroundings. We remember that Michelangelo toiled for four long years just to the right of that dome, and our heart beats more quickly. We are told that Julius Cæsar passed through this place on his way to Gaul by the old Flaminian way,

and we cannot suppress a thrill of emotion.

As far as the testimony of all our senses save one is concerned, as far as the facts of the physical world are concerned, we are hundreds of miles away from Rome, entirely separated from it; we are really in our room in the presence merely of waves of light reflected from a piece of cardboard, and yet in a vital way we are in the presence of What a paradox! Here again the Rome. explanation in a word is that through all our life when such waves of light have struck our eyes, it has meant that real objects were close at hand. And so now, though we know the light waves come from a stereoscopic card only, we still are, in accordance with our habit, inclined to have, and may have, the same responding state of consciousness, feeling and all, that we are looking at an actual place, that we are in the presence of that place and its surroundings.

[The conclusion of this article will appear in our next number and will contain a more detailed explanation of the seemingly conflicting facts of our experiences in connection with the telephone and the stereoscope.— EDITOR.]

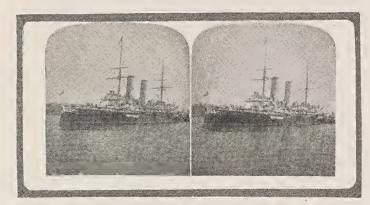
THE SENSE OF LOCATION.

Few travellers have an accurate idea of their location, when, for the first time, they stand and look out over some strange and interesting scene. Often they approach the spot by a circuitous route and through a bewildering array of new and unfamiliar sights, which combine to destroy the sense of their geographical surroundings, and many come away bringing with them not a clear and definite knowledge of the place, but merely the memory of some insignificant circumstance which happened there, and which alone saves the visit from oblivion. "Were you in Rome?" asked a gentleman of a tourist acquaintance with whom he was taking dinner. "Rome? Rome?" repeated his friend slowly and with hesitation. "Were we in Rome, love?" he asked, turning to his wife. "Why, yes, darling," was the reply, "that's where I bought you those socks, don't you remember?" "Certainly I do!" was the triumphant response.

But all this is otherwise with the stereoscopic tourist who has at his disposal the key-map system, by which he knows exactly where he is standing, and precisely the field of vision which is included in the stereograph at which he is looking. We are lost in the forest for want of a long look ahead, or, indeed, on any side of us; but by having the stereograph indicated definitely on the map with bounding lines showing the limits of our view, we are not only conscious of the location of the scene immediately before us, but of its relation to the places situated on all sides of it. In this way we view places in their proper geographical relations, which is immensely helpful to their intelligent appreciation.

THE INTERNATIONAL TRAVELLERS' CLUB.

PLEASUREABLE AND PROFITABLE JOURNEYS TO SUMMER LANDS.



An Ocean Liner.

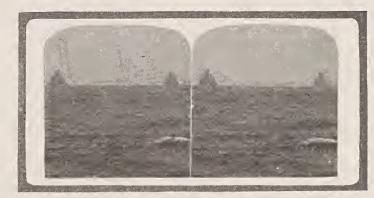
TT is well to bear in mind at the very beginning, that the object of this Club is not to book parties or individuals for any steamer or railroad train. Moreover, our purpose does not even require that any member of the Club ever set foot on foreign soil, although, of course, it would be vastly better if every one of them could avail themselves of the benefits of foreign travel. However, as Prof. Powers reminds us in his admirable paper on The Evolution of Travel, "mere going about is not travel—the great problems of travel are intellectual, not mechanical. We do not go to Europe to take the air, but to see things." Now, we all grant that it is better, if possible, to see things on the spot, and to see them there under the direction of trained minds such as are associated with the system of University Travel, "which comes the nearest to realizing the full cultural and educational possibilities of travel." But to see things through the stereoscope is the best possible substitute for actual travel, since by the aid of the key-map system one can gain a sense of location in these places and thereby get part of the very same mental impressions that are experienced by visiting the places themselves (see article entitled "Extraordinary Results," Etc., in March number of the Magazine). while "getting about" is not necessarily implied in the work of the Club, yet as a result of the facilities it offers, one can, if the opportunity presents itself, visit foreign lands far more intelligently and economically, journeying to the places best worth seeing, and with almost the same confidence and familiarity that ordinarily belong only to a second visit.

In addition to the stereographs referred to, certain books should be read, before sailing on the ocean voyage by club members who will actually visit the place named at the time stated in the itinerary, and by all others during a course of reading extending over a period of three months,

during which time regular fortnightly meetings should be held by the regular chapters, at which the stereographs should be studied, topics bearing on the trip discussed, and questions asked and answered.

An ideal summer trip affording opportunities for pleasure and culture at reasonable expense is as follows:

A VACATION TOUR OF THE BRITISH ISLES.



The Wide Atlantic.

Wednesday, July 2nd—Leave New York.
Friday, July 11th—Due at Queenstown.
Saturday, July 12th, and Sunday, July 13th—
Cork, and excursion to Blarney Castle;
thence to Killarney by coach and jaunting car via Macroon, Glengariff and Kenmare.

In order to *see* the most important points of interest in these places, secure the following stereographs:

St. Patrick's Street, Cork.

The Grave of Chas. [Stewart Parnell, (Ireland's great political leader.)

The Mardyke, the Fifth Avenue of Cork.

Interior St. Mary's Church.

Paddy's Market.

On the Prince of Wales' Route Between Glengariff and Killarney.

Monday, July 14th—The Lakes of Killarney.

Secure the following stereographs:

Meeting of the Waters, Lakes of Killarney.

By Killarney's Rocks and Rills.

The Old Wier Bridge, Lakes of Killarney.

Ross Castle, Lakes of Killarney.

Muckross Abbey, Lakes of Killarney.

One of Nature's Choicest Jewels—Islands and Upper Lake of Charming Killarney.

On the Upper Lake of Pretty Killarney.

Market Day in Killarney.

Types of Kerry Irish at the Sheep Fair, Killarney.

A Picturesque Corner-Killarney.

A Farm Yard on the "Owld Sod," County Kerry.

Kate Kearney's Cottage, Lakes of Killarney. Colleen Bawn Cottage. Carrick-a-rede Rope Bridge.

Monday P. M., July 14th—To Dublin.

Tuesday, July 15th—In Dublin; Night Boat to Hollyhead via Kingston.

Examine the following stereographs:
Sackville Street, Dublin.
O'Connell's Monument.
Interior of St. Patrick's Cathedral, Dublin.

All of the following books are entertaining and

will add to the enjoyment of the trip:

The Isle of Shamrock, Clifton Johnson.

Fairy Legends and Traditions of the South of Ireland, Thos. C. Croker.

Penelope's Irish Experiences, Kate Wiggin. Irish Idyls, Jane Barlow.

Wednesday, July 16-18th—Bangor, Carnarvon, Llerberis, "The Chamonix of Wales"; Capel Curig; Coach to Bettus-y-Coed, Conway, thence to Chester, "the Nuremberg of England."

Examine the following stereographs:
Fairy Glen, Beetus-y-Coed, Wales.
Miner's Bridge, Bettus-y-Coed, Wales.
The Great Suspension Bridge.
The Bridge and Castle, Noblest of Memorial
Fortresses, Conway, Wales.
Penrybn State Quarry, Wales.

Read the following books:

Oliver Glynden, A. G. Bradley.

Wales, Owen M. Edwards.

Saturday, July 19th—Morning in Chester; afternoon leave for English lakes.

Sunday, July 20th, to Tuesday, July 22nd—The Lake District, Lakeside, Ambleside, Geasmere, Keswick, Buttermen.

Read the following:

Days of Lamb and Coleridge, Alice E. Lord.

Wednesday, July 23rd—Peurith to Ayr, thence to Glasgow.

Secure the following stereographs:

The Birthplace of Burns, Ayr.

The Interior of the Birthplace of Burns, Ayr.

Burns' Monument, Ayr.

Auld Kirk, Ayr.

The "Auld Brig o' Doon," Ayrshire.

Thursday, July 24th, to Saturday, July 26th— Edinburgh via Scottish Lakes and the Trossachs.

Secure the following stereographs:
"Where the rude Trossachs' dread defile.
Opens on Katrine's Lake and Isle."

Edinburgh Market from Grass Market.
Scott's Monument, Edinburgh.
Princes Street, Edinburgh.
Waterloo Palace and Colton Hill, Edinburgh.
St. Giles' Cathedral.
Home of John Knox.
Looking Through the Great Forth Bridge.

Saturday, August 26th, and Sunday, August 27th—To Melrose, Abbotsford, Dryburgh.

Examine the following stereographs:

Melrose Abbey, Residence of Walter Scott.

Abbotsford, Burial Place of Sir Walter Scott.

Dryburgh Abbey.

Consult the following books:

Royal Edinburgh, Mrs. Oliphant.

The Heart of Midlothian, Scott.

The Abbot, Scott.

Lady of the Lake, Scott.

The Mystery of Mary Stuart, Long.

Penelope's Progress, Kate Douglas Wiggin.

Monday, July 28th—York, visit the Cathedral.
Tuesday, July 29th—Lincoln, visit the Cathedral.
Wednesday, July 30th—Peterborough; thence to
Ely. Consult these books:
A Cathedral Pilgrimage, Julia Dorr.
A Cathedral Courtship, Kate Douglas Wiggin.
Old Shrines and Ivy, Winter.
A Handbook to English Cathedrals, M. G.
Van Rensselaer.

Thursday, July 31st—Cambridge; afternoon train to Warwick. See grand old castle.

Friday. August 1st—Kennilworth (visit the great castle) and Stratford-on-Avon.

Secure the following stereographs:
Stratford Town.
The Room Where Shakespeare Was Born.

The Library in Shakespeare's House.

The Living Room in Shakespeare's House. The Museum in Shakespeare's House.

Interior of Church Where Shakespeare Was Buried.

Shakespeare's Memorial Theatre, Stratford. The Cottage Where Shakespeare Wooed Anne Hathaway.

Saturday, August 2nd—Oxford, thence to London.
Secure the stereograph:
The Porch of St. Mary's Church, Oxford.

On England (general); Helpful Books:

Our Old Home, Hawtborne.

A Trip to England, Goldwin Smith.

Portraits of Places, Henry James.

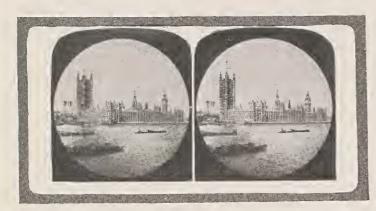
Famous Houses of Great Britain, A. H.

Malan.

England in the Nineteenth Century, Justin McCarthy.

Oxford and its Colleges, Goldwin Smith.
The Warwickshire Avon, Hutton.
Shakespeare's England, Winter.
Strange Adventures of a Phæton, Black.

Sunday, Aug. 3rd, to Friday, Aug. 8th—In London.



Houses of Parliament, London.

One should secure at least thirty-five stereographs of this great city; study the principal places of interest, including celebrated palaces, churches, Houses of Parliament, the Tower of London; and street scenes, also the following books:

About London, Walter Besant.

Literary Landmarks of London, Hutton.

Walks in London, A. J. C. Hare.

Memorials of Westminster Abbey, Stanley.

The Tower of London, W. H. Dixon.

Windsor Castle, W. H. Ainsworth.

London as Described by Great Writers and

Travelers, Esther Singleton.

Select poems of Wordsworth, and a Murray or Baedeker guide-book for botels, local attractions, etc., also the A. B. C. Railway Guide or Bradshaw's Railway Guide, also that very useful little book, "European Travel for Women," by Mary Cadwalader Jones, written for the woman traveller preparing to take her first trip.

And that one may not travel without purpose, the entire stereograph set of the British Isles should be included in the preparatory course. It will be a source of perpetual delight after the trip.

Saturday, Aug. 9th—Sail, directly for New York.

Thursday, August 19th—Due at New York.

Forty-seven days' tour, \$350.00.

The following is a copy of an inquiry received and represents other inquiries of a similar nature. To the Editor of The Stereoscopic Photograph:

DEAR SIR:—As a member of the "International Travellers' Club," I take the liberty of seeking your advice. I have about \$275.00 in money and six weeks in time, for a vacation trip.

I should like to go abroad and visit London, Stratford-on-Avon, Edinburgh and the Lakes of Killarney. Bearing in mind my financial resources and the amount of time at my disposal, can you give me any suggestions as to what other places I had better visit, and what stereographs and books would be most helpful by way of preparation for such a journey? I could not leave before the middle of July, and would sail from New York City. Yours very truly,

R. F. H.

SPECIAL ITINERARY: IN REPLY TO THIS LETTER.

Saturday, July 19th—Sail from New York. Thursday, July 31st—Due at Hull. Friday, August 1st—Lincoln, Peterboro. Saturday, August 2nd—Ely, Cambridge.

Sunday, Aug. 3rd, to Friday, Aug. 8th—London. Saturday, Aug. 9th—Windsor, Eton, Oxford. Sunday, Aug. 10th—Kennilworth, Warwick, Stratford-on-Avon.

Monday, Aug. 11th—Hereford; excursion down the Wye.

Tuesday, Aug. 12th-Chester.

Wednesday, Aug. 13th—The Lake District, Lakeside, Ambleside.

Thursday, Aug. 14th—Grassmere, Buttermen, Friday, Aug. 15th—Penith to Edinburgh, via Carlisle and Melrose.

Saturday, August 16th—Edinburgh.

Sunday, Aug. 17th, and Monday, Aug. 18th—Sterling, the Scottish Lakes and Trossachs.

Tuesday, Aug. 19th—Glasgow; thence to Belfast.

Wednesday, Aug. 20th—Dublin.

Thursday, Aug. 21st-To Killarney.

Friday, Aug. 22nd—To Killarney, thence Queenstown.

Saturday, Aug. 20th—Sail from Queenstown. Saturday, Aug. 30th—Due in New York.

Forty-three days; \$275. First cabin, steamer; third class, rail. Exclusive steamer fees.



Sky Scrapers, New York.

- (3) The apex (), or point from which two lines branch out, indicates the place from which the view was taken, viz: the place from which we look out, in the stereograph, over the territory between the two lines.
- (4) The Branching lines () indicate the limits of the stereographed scene, viz: the limits of our vision on the right and left when looking at the stereograph.
- (5) The stereograph number without a circle is frequently placed at end of each branching line (example 13) to help locate quickly the space shown in a stereograph.
- (6) Sometimes the encircled number is placed where it can be seen better and a zigzag line runs to the apex to which it refers.
 - (7) Stereograph No. 9 is located by an arrow which runs from the number 9 in a circle.

THE GREATEST CHURCH AND PALACE IN THE WORLD.

A Map Study for the International Travellers' Club.

(Extracts from advance sheets of "Italy through the Stereoscope," a book by D. J. Ellison, D. D., soon to be published, explaining one hundred stereographs illustrating the famous objects and places in "Sunny Italy.")

OUR point of view in the stereograph here reproduced indicates that we are standing on the moss-covered tiled roof of one of Rome's quaintly picturesque houses, at the very threshold of the most renowned church and the most spacious palace on earth. The first object that strikes our gaze as we fix our eyes on this scene, is that of a girl hanging out clothes! I never visited a place where the inhabitants

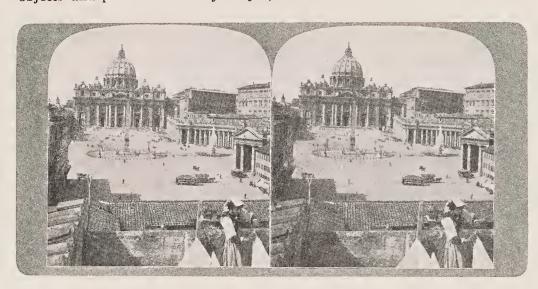
seem to be so bent on washing No. 6, St. Peter's and the Vatican—Greatest of Churches, Greatest of Palaces, Rome. clothes as they do here, and

they seem to prefer to hang them out to dry in the most historical and most conspicuous places, as if to show their contempt for worldly pride and bygone greatness. One sees the banners and bannerettes of the laundry kingdom floating around the Pantheon and the Roman Forum, and almost flopping against Trojan's Column and the Castle of St. Angelo.

We had better consult the map on the opposite page, in order to get our position more clearly in mind. The various red lines on this plan marks out the limits of view of a number of stereographs. We shall have to do with but three.

First find number 6, printed in red, on the lower left-hand margin of the page. Note carefully the length and direction of the two red lines that extend from this number, where we are standing, to the west or upper margin of the map, showing the limits of our field of vision. The outline of the houses about us are omitted on the map, but the heavy black lines give the out-lines of the main body of the church, and the dotted lines, extending to the right and left of our present location, enclose in semicircular form the Piazza di San Pietro, and show the position of the grand Colonnade.

Just beyond those houses seen close at hand, we catch a glimpse of the southern row of the colonnade, but only that part of it which is straight. On the right we see most of the northern colonnade, with three of the four columns at the end. That tallest building bathed in sunlight beyond the colonnade to the extreme right, contains the personal apartments of the Pope and his



cabinet of cardinals. The tall building just to the left of this and in the shadow, forms the west side of the Court of Damaso, seen on our map, and contains on the second floor the famous Loggia of Raphael. Between this taller building and St. Peter's can be seen the roof of the Sistine Chapel outlined against the sky. The greater part of the Vatican palace, we know from the map, extends directly off to the north, or to the right.

Only by careful observation and comparison will we be able to gain any proper estimate of the mammoth proportions of the structures before us. Strange to say, these near-by houses on our left are not so much higher than Bernini's splendid colonnades, and, in truth, the four-story houses on the right of the square below are not so high, and serve admirably to bring out the noble proportions of the massive columns. Notice how the residence of the Pope looms up above the colonnade, and then how the wonderful dome of St. Peter's lifts itself so grandly over them all. This near-by square, directly in front and below us and extending to the ends of the colonnade, is called the Piazza Rusticucci, and the house in which Raphael lived and where he died, stood on the spot where the right colonnade ends. This house of the great artist was removed in order to make room for the colonnade and while we regret its departure, perhaps it does not much matter since, near by, in that more enduring house of the Vatican, are treasured his brilliant and immortal achievements. When Raphael died, he gave this house to the Church and requested that his tomb in the Pantheon be kept perpetually in repair. To me those rows of gigantic pillars have always seemed like giant soldiers marching and countermarching on that grandest of parade grounds, the Piazza of St. Peter's. To see them as we have done and are doing, is vastly better than being told that they number two hundred and eighty-four; that they are sixty-four feet high, and that the rows are sixty-one feet wide, forming three covered passageways, the one in the center having space for two carriages to drive through abreast. The effect of this great church is wonderfully enhanced by those peerless colonnades.

The pavement of the Piazza alone cost nearly one hundred thousand dollars, equal in purchasing power in America to double that amount; and two hundred thousand soldiers, infantry, cavalry and artillery, can stand upon it.

Even though you may have done so before, will you now take a careful look at that dome; just such another there is not in all the world. It was an intensely hot June day when I climbed up into that copper ball on the very top beneath the cross which from where we stand seems so small, although it will hold sixteen persons. From the pavement of the church to the summit of that lantern is four hundred and three feet, and to the top of the cross is four hundred and thirty-five feet, about the height of the great pyramid of Cheops. The diameter of the dome is one hundred and thirty-eight feet, five feet less than that of the Pantheon, but St. Peter's is much higher. Some few years ago it was discovered that the dome was cracking at the base, crushing itself with its own enormous weight, and in order to preserve it a huge, tight-fitting band of steel was placed about it (a little above the drum on which the dome rests), and this may be seen through the stereoscope.

Repairs are always needed on that stupendous structure, and it costs about thirty-five thousand dollars every year to keep it in its present condition.

Try as we will, we cannot keep our eyes from that aerial and majestic dome. You have doubtless noticed the fact—if not, you will, now that I call your attention to it—that the dome is pierced with loopholes, and because of the concussion which the wind makes against the inner iron dome, the latter is constantly musical. When the city is swept by hurricanes from the Mediterranean, which dash themselves against this mountainous mass, then the low murmur swells out into a thunderous roar, which seems to gather up into itself the angry cries of all the demons of the storm.

Before leaving this housetop to take our stand in that indescribable dome, glance over that rough parapet near us, at the tiled roof just below, with the curious dovecote resting above its eaves. The tiled roofs of Rome have always been to me a pleasant memory; old, gray, often jumbled together, frequently moss-covered and lichen-coated, they appeal to every lover of the picturesque. Moreover they have always seemed to possess almost human sympathy and emotion when, as "a stranger in a strange land," I have looked upon them in sunlight and in starlight, and watched their changing hues, red in the morning sunburst, grey at noon and purple in the tender light of the setting sun.

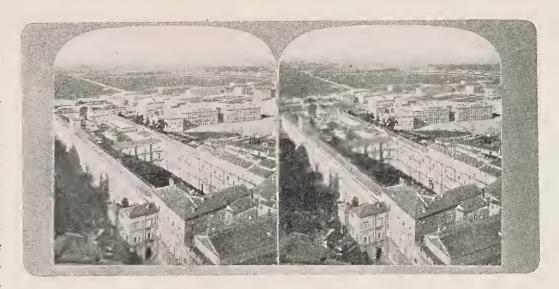
One long look at the Vatican, the church, and the piazza with its stony finger and marching columns, and we will descend; and, as we go, I call to mind an old guide-book, in the margin of which, over against the page which briefly described the glorious scene we have just been contemplating, a three days' tourist in Rome wrote long years ago, "I have seen better." I doubt it—nay, I deny it. For where on this round globe can man see as grand a church, as noble a palace, and as extraordinary a piazza suggesting in its fringe of columns and in its figured pavement a rich and elaborate pattern of Persian embroidery; and where can such a church and palace and piazza be found in company?

Now, consulting the map once more, note carefully the two red lines which start from the black plan of the church, and extend toward the right or north, and east or lower map margins, with the number 5, at the apex and end of each, indicating the point of view and the field of vision included in the stereograph reproduced on the next page. Here then, is the Vatican, the Palace of the Popes. Off to our right, we know, is the great, broad city of Rome, with its mass of buildings and ruins, collected there during all the long centuries. Farther than we can see on our left are the Tuscan Hills, and winding before us in the distance is the old Tiber; but here at our feet, in the midst of these most venerable surroundings, established upon the ruins of an Empire, is this remarkable palace in perfect repair. First, it is the greatest palace in the world in its material proportions. The enormous extent of its mass of buildings may be better estimated, perhaps, by noticing those specks of human forms in the square beyond the palace to the right. It is only in some such way that we can hope to appreciate the statement that the palace is eleven hundred and fiftyone feet long, seven hundred and sixty-seven feet wide, that it contains eight grand staircases, two hundred smaller ones, and twenty courts which occupy about half of the entire area.

But far more than material greatness distinguishes this place. "There is no palace in the world which approaches the Vatican in interest, whether we regard its prominent position in the history of the church, or the influence exercised by its collections on the learning and taste of Christendom for nearly three hundred years.'' Speaking alone of the manuscripts and books carefully preserved beneath those tiled roofs, another writer says, "No other library has

the history, or the value of the famous collection of the Vatican. To no other spot do the longings of classical and historical scholars, of librarians and students of paneography go out, as to that secluded and long-forbidden reading-room in the last arm of the palace of the Popes."

Surely we shall want to get in mind the main compartments in these historic buildings before we descend from our lofty position. Indeed, this is the only place from which it is possible to get a clear conception of the general plan of the Vatican buildings. Being able to stand here first, we shall have a wonderful advantage over the average tourist who remembers the Vatican only as a confused jumble of rooms, corridors and galleries, never having seen the different rooms in their relations to the building as a whole, and never having a true conception of the points of the compass in all his aimless wanderings. When he is about to leave the palace, he admits that he is "completely turned about "in all his ideas of the place; and, in fact, he would find it impossible to give friends at home any accurate description of the vast structure and of the relation of its various parts. This confused and disappointing impression is partly occasioned by the fact that visitors are only admitted to a portion of the palace, and their knowledge therefore must be partial and superficial. It is otherwise, however, when at the very outset you can look down upon it all as we are doing and fix in your minds the general scheme of of the entire structure. By consulting the map, you can see that the palace, as a whole, extends due north and south, though we are looking somewhat east of north. It is built, as you observe, about two great courtyards, with a smaller one intervening, into which, on account of the height of the south transverse building, we cannot look. The large courtyard nearest us is called the court

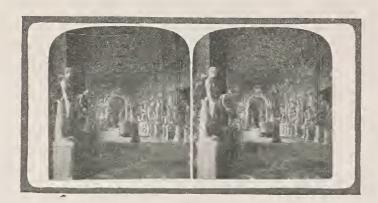


No. 5—The Great Pontifical Palace, the Vatican—northeast from St. Peter's Dome, Rome.

of the Belvidere, and is adorned with shrubs and flowers; the large courtyard at the further end of the palace is called the Garden of the Pigna, and contains some interesting relics to which we shall refer later. Beginning at the building nearest us down on the right, our eyes immediately rest upon that peaked, tiled roof, with the slender finger of a lightning rod raised at one end. That is the roof of the Sistine Chapel containing some of the greatest paintings in the world, masterpieces of Michelangelo. That chapel is considerably older than the present church of St. Peter's, having been built in 1473, by Sixtus IV., hence its name.

The nearest corner of the main palace, whose roof is slightly raised above that of the long building attached to it, contains the Picture Galleries in which is the Stanza of Raphael and his Transfiguration. At this point we might well stop to fix clearly in mind the plan of the palace in respect to its different stories. So far as the interest of the public is concerned, we need to consider only two stories in certain parts of the palace before us, and in others only one story. This long left-hand or western portion appears to have four stories nearest us, and three stories in end If we look to the extreme farther away. end of this western portion, however, we find only two stories. These two stories, extending clear across the building toward us, are of interest to the public. The lower floor containing the Gallery of the Library, filled with many pieces of sculpture and closed cabinets stored with manuscripts. This is the largest room in the world, extending nearly the entire length of the palace, a distance of over a thousand feet. The transverse buildings at the extreme end of the palace contains the Gallery of Statuary.

There are only two sections of the palace left for us to consider, the two middle transverse



Gallery of Statuary, Vatican, Rome.

buildings inclosing the center courtyard. The more distant of these buildings is the Braccio Nuovo. It is a fine hall two hundred and fifty feet long, and filled with gems of sculpture. The nearer building contains on its upper floor the Library of the Vatican. We shall soon enjoy a visit to this splendid hall. We are to stand in the western end of the Library, and look back toward the east. The famous Reading Room is located between the Braccio Nuovo and the Library. There for many years Father Ehrle has presided over the readers with kindly interest and unfailing courtesy. The Library is closed on Sundays and Thursdays and all feast days, and from the end of June to the middle of October. The hours are from nine to one in the fall and winter, and eight to twelve in the spring. In that room during these hours, you can see representatives of all the nations of Europe, men of all professions, priests, famous editors and professors. During the recess of the German Universities the place is crowded.

Before we leave our position above this stupendous dome, which is a vantage-ground of wide and far distant vision, you, no doubt, have a question you would like to ask about the rows of buildings beyond the palace, back of which is the broad, level field through which flows the Tiber.

In answer to this question I would say, that the rows of fine modern houses between the

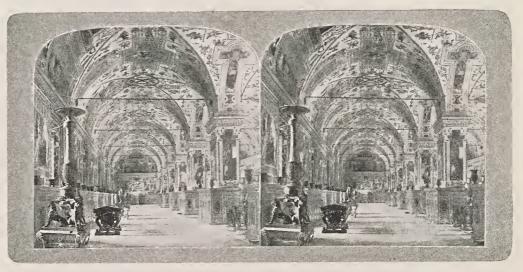
barracks and the palace, with parapeted roofs, are almost entirely uninhabitated, their construction being the result of the building craze which swept over Rome some flfteen or New twenty years ago. thoroughfares were opened up all over the city, and wherever these went there followed an unprecedented boom in real Old streets were estate. widened and straightened, and many an ancient structure was leveled to the ground. There

was about the whole undertaking a recklessness, prodigality and stupidity such as no city in the world has ever witnessed. So high did the delirium run, that buying and building were without limit. There seemed to be a universal determination to make modern Rome outrival the city of the Caesars. New sections of the city sprang up in mushroom growth, even though there was no one who would live in the buildings. With a population of half a million inhabitants in the city, they confidently expected a million and built for them, but they never came.

Is this building craze in the very atmosphere here, so that whoever possesses the city must build and build, without regard to size or utility? Is this the spirit—proving either a blessing or a curse—which for all the ages has held sway here in Rome and to which the existence of the Colosseum and the Quirinal and those deserted buildings yonder, and even St. Peter's and this vast Vatican, may be attributed?

Again let us consult the map. You will observe that along the western or upper portion of the Vatican plan extends the Corridor of the Vatican, (Library, in the map) the longest room in the world. Near the center of this corridor, and at the northwestern corner of the Garden of the Belvedere is the figure 16 in a circle, both in red, from which a zigzag line runs to the apex of two red lines. In the stereograph reproduced below we are standing at the point indicated by this apex, facing east. As we look down this magnificent room, we are to remember that to our right, then, is the Court of the Belvedere, and beyond is St. Peter's. We looked down upon this library building when in St. Peter's dome.

This Library of the Vatican is one of the most magnificent halls in the palace. It is two hundred and twenty feet long, forty-eight feet wide and twenty-nine feet high.



No. 16-The Library of the Vatican, Rome.

TRAVEL IN GREECE.

Written expressly for the International Travellers' Club. H. H. POWERS, PH. D.

President Bureau of University Travel.

THE last few years have witnessed a remarkable revival of interest in Greece due in no small degree to the efforts of a single organization which for the first time has approached the problem of organized travel in something else than a spirit of sacrilege. From our childhood up, ever since we have read Hawthorne's Tales or the Story of Salamis and Marathon, Greece has been in imagination part of another world, the world of wonders and of magic, of supernatural achievment and ineffable beauty, just a little too much so to make it seem quite accessible and real. Perhaps it is our reverence for our own visions of beauty, the things which after all we cannot be too reverent about, that has preserved Greece from tourist sacrilege. The great horde of globe-trotters who so often desecrate what they touch, has stopped short of Greece, or even if they have passed beyond to wander over Palestine or engage in flirtations around the Pyramids, they have still left the Parthenon untouched. If this is partly due to Philistine indifference, it is also partly due to reverence on the part of those to whom Greece is another Holy Land. The statements so often published in travel prospectuses that the Mediterranean Cruise, that device for providing culture at wholesale rates, will touch at the Piraeus for six or eight hours, "allowing ample time for a visit to Athens," has its melancholy but also its agreeable aspect. It is a pity that so few ever see the Parthenon, but the Parthenon can dispense with the amenities of a fashionable after-

But now that it is possible to approach Hellenic soil with all the advantages that modern organization permits

and in a spirit which guarantees something of integrity to our dreams of Hellenic greatness, the possibilities of a tour in Greece are coming to the cultured



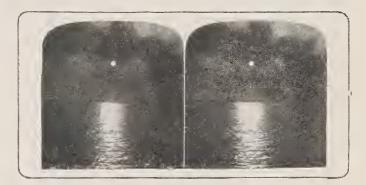
The Parthenon Athens.

world like something of a revelation. First of all, there is the attraction of scenery. While opinions will differ as to what kind of scenery is best, there is much ground for the assertion which is now frequently made that the scenery of Greece is the finest in Europe. The mountains are not so high as the Alps. They have no stupendous glaciers or mantle of snow, nor do we find the Norwegian waterfalls with their foamy plunge into the gloomy fiord. But there are more ways than one of being beautiful, even in nature. The mountains of Greece, though not snowcapped, are still imposing in their rugged outlines and their billowy mass. quite beyond this charm, which it is so easy to match in other countries, they have a beauty that is quite their own. Nowhere in the world is there such a remarkable medley of color as in the mountains of Greece and the rocky islets that play so large a part in her history and her Streaks of brightest ochre inromance. terspersed with vivid Indian red passing almost to vermilion are not unfrequent, while the cast of the landscape of the Peloponesus, as seen from the Akro-Corinth, has a rich red tone that fits in with the green of the currant fields like the red

of Holland. An hour spent on the Akro-Corinth is not only one of the most vivid lessons in geography, but one of the most rapturous visions of beauty that the world has to offer.

But even these things are not the great charm of Grecian scenery. This is to be found rather in the extraordinary effects of atmosphere and light. The haze that slightly tinges the local colors in the northern landscape becomes in Greece a glorious mantle, rich and deep in its hue, in which local color is blended and lost in a way to produce the most astonishing effects. A sunset seen from the Acropolis or over the Ionian Sea from Patras has none of the far away sharpness of our Northern Experiences. We are rather in the sunset than at a far away point of The world is swathed and enveloped in a mass of voluptuous color and light. But above all, that which most fascinates the beholder and remains longest in his memory is the color of the sea. We all think we have seen blue water many times, but any one who has seen the Gulf of Corinth or the Bay of Salamis invariably feels that he never saw blue water before It is not the depth or intensity of the blue, however. It is a quality impossible to describe but impossible ever to forget. The blue is intense as nothing else in the world can ever be, but one has the impression of deep inexhaustible transparency in it all, whereas the blue water of northern climes invariably seems opaque. It is not a sapphire; it is more like—well it is not like anything except the water in Greece. Even to one who cares nothing about Phidias or Pericles or Plato a trip to Greece is an experience never to be forgotten.

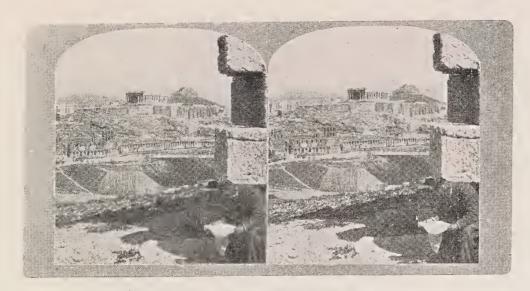
It is with this dangerously magnificent background that the drama of Greek history is staged. The wonder is that we have any attention left for the play. And yet the grandeur of the play makes even this staging look cheap. Fortunately Greece is not yet cursed with the throng of mendicant ciceroni who befoul the



Moonlight on the Aegean Sea.

sanctuaries of Italy. The Acropolis stands clear, silent and deserted. Those who visit it are with few exceptions sympathetic and reverent. There are bigger things in the world than the Parthenon. are things that stagger us with their immensity and produce something of that cheap awe which mountains produce upon the untrained mind that cowers before their sheer immensity, but there is and can be but one Parthenon, and the least reverent of spirits can scarcely fail to feel its power. It appeals to the best that is in us and ultimately creates that best in response to its appeal. There is a pathos in the devotion of the modern Greeks to these monuments of their vanished greatness. They cannot duplicate them or analyze them or, it may be, understand them, but they feel them with a passionate earnestness which the most transient There are few tourist must respect. places on earth where human reverence has been more profound. The Acropolis has been saved from the sacrilege of modern vandalism, even from that of modern restoration. There is a reverence even for its ruin, and our inevitable participation in that reverence as we visit it, is itself an ennobling experience.

It was the dream of Pericles to make in Athens and in the Acropolis a center



The Acropolis from Philopappos Hill, Athens.

around which the highest sentiments of the Greek race should gather, to make of their devotion to its sanctuaries and their enthusiasm for its art, a bond that should bind its scattered fragments into one. He well understood the passion of the Greeks for beauty and felt that their thought would turn inevitably to that center where their achievments in art were most magnificent. For a moment the dream seemed realized. Aristides had sailed about the blue Ægean and along the coast of Asia Minor after the battle of Salamis and with scarce an effort had drawn all the powerful cities of that larger Greek world into a federation which the astuteness of Pericles consolidated and seemed likely to make perpetual. There was a moment when Greece seemed about to do the work of Rome. But the dream was not to be realized. Those who, as children, marched in the great procession that dedicated the Parthenon, saw with gray heads the humiliation of Athens, the demolition of her fortifications, and the dismemberment of her empire. Fitful and spasmodic revivals did not suffice to restore her supremacy. Greek world dominion was not to be. And yet, after all, was it not to be? The dream as Pericles dreamed it was unrealized, but the dispoilers and inheritors of Athens, as the years went on, paid her increasing homage. In the Philistine triumph of Rome there was a pathetic recognition of the supremacy of Greek culture and of the higher leadership of Athens. Cicero and Augustus were avowed worshippers at her shrine. During the long ages when culture endured, Athens was the Mecca of the student and philospher. With the revival of the ancient culture men turned

with passionate delight to the philosphy of Plato and the art of Greece. When Michelangelo was leaving his imperishable legacy to Italian art there was not a moment's thought that his or any other work could equal that of the Greeks. The majesty of Athens in the world of culture was still supreme, and today when science has given us a new philosophy and machinery has revolutionized life, when art is learning a new language and turning to new things, again the altar is set up at Athens and the world turns with renewed reverence to lay upon it its tribute of respect.

Athens not the only place in There was Olympia, never a city but a sanctuary and a center of life so peculiar that it has no counterpart in modern life to make its meaning clear. Here the lusty manhood of Greece reveled in its own right, and built for itself another art. For a thousand years the sports of Greece here claimed the serious attention of the Grecian world and constrained its warring factions to the truce of God. Countless plunderings by Rome and later masters have not wholly dispoiled the place of its ancient treasures. The excavations of the German government have brought to light among other things the most valuable statue in existence, which Greece, with jealous reverence, insists shall not leave the place. Few things can exceed the impressiveness of a night in Olympia. The area covered by the lonely ruins lies embowered among beautiful hills, silent as the grave and lighted by the unchanging stars.

Recent excavations have revealed Delphi again, another center that strove to unify Greece. Here religion took that strange political turn, and the shrewdest minds of Greece, not uncontrolled by the highest impulse of public spirit, manipulated by clever suggestion the impressionable prophetess, and under the awful sanction of the god, restrained the turbulence and rebuked the craven temper which so often menaced the existence of Greece.



The Place of Councils, Ruins of Homeric Age, Mycenae.

> Nestled in a niche in one corner of the beautiful vale of Argolis stands the old hill town of Mycenae, venerable even in the days of Homer, and presenting along with its cyclopean walled neighbor of Tiryn's the imposing reminders of that civilization that was in Greece before it was Greek. Here stands the foundations of the Palaces that the Homeric bard describes before Parthenons were dreamed of, a wonder even to him, living as he did in a day when civilization was in decadence and men could no longer build what they wonderingly respected as the creation of their ancestors. Here Dr. Schliemann made his great discoveries and found the golden ornaments and cups that excite our wonder in the Royal Museum

of Athens, among the rest the cup of Nestor, literally as Homer described it, all of gold with rivited handles and braces to the handles and golden doves sitting upon them and looking at the wine. again all is desolation, and as the traveller stands upon the summit of the acropolis of Mycenae and looks over the rich valley that has seen the wax and wane of so many civilizations, he is impressed with the mutability of human life and the nomadic instincts of culture. One civilization after another has grown up on this sacred soil and spread its influence far and wide and at last has seemed to fail from off the earth. And yet 'tis only seeming.

After all, the dream of Pericles has come true. Nothing that was significant in Greek Culture has really perished, but has wandered to pastures new. The world has become Greek.

Underwood & Underwood:
Allow me to compliment
you in behalf of your Maga-

zine. As the originator of the half-tone process on this coast, I can credit myself of being a judge of good work. The illustrations in your Magazine are of fine workmanship and give a convincing idea that the original views were excellent. The printing and paper prove that you have spared no expense of making it a most desirable Magazine for anyone interested in photographs. Yours respectfully,

E. KORNMANN.

THE STEREOSCOPIC PHOTOGRAPH, Gentlemen:

Yours just received today concerning the renewal of my subscription to the Magazine. I consider it a most valuable Magazine and would not be without it for anything. I put a few back copies of it in our college library, and it received a number of very high compliments. I inclose my renewal and thank you for reminding me of the expiration of my subscription.

Yours very sincerely,
J. A. Snell.

BINOCULAR VISION.

BY THEODORE BROWN.

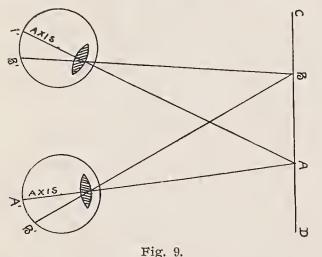
CHAPTER II.

Having noted those changes which take place in the eye as it adapts itself for distinct vision of objects situated at different planes, let us proceed to consider how much we gain by supplementing the single eye with a companion.

The changes already observed apply equally to a second eye, but in addition to such, we have divergence and convergence of the eyes' axes, so that they cross at that point or plane OBJECT where the object of attention happens shown in Fig. 8. to be situated, as We see from this diagram, which is two eyes with their really a plan of the optic nerve connection, all the parts named in the first chapter, have occasion and we shall refer these as we proceed. In order that any object may be seen single AxIS. Junction of Optic Nerves within the Skull

whilst using two eyes, it is necessary that rays emanating from that object should fall on corresponding parts of the retina, viz: In Fig. 9, let

Fig. 8.



A be the object of attention to which the axes of both eyes are turned, although A will be more noticeable than B, because it is in a line with the axes, yet B will also be clearly defined upon the retina and seen single. It will be seen distinctly because it is at the same distance from the eyes as A, and it will be seen single because its image falls upon the retina at a point in each eye the same distance from the left of the axes in each case.

In the same manner other objects situated along the plane C, B, A, D, will be seen single and distinctly, and that object upon which the axes of both eyes is centered will be most noticeable.

Whilst the eyes are thus accommodated to the plane C, B, A, D, any object situated at a nearer or more distant plane will be seen more or less blurred and also double, viz: In Fig. 10, let E

be a remote object. A is seen distinctly, whereas E is indistinctly, whereas E is indistinctly.

Axis

In axis

because its image falls upon contrary parts of the retina; in other words, because the distance between A, E, in the left eye is greater than the distance between A, E, in the right.

From this observation we find that to see an object to the best advantage, it is necessary that the axes of both eyes should be centred upon it, and also that the focus of each eye should be adapted to its distance.

Hence it is obvious that the retinal picture will not only vary with regard to clearness of objects situated at different distances from the observer, but also that the picture in each eye will be dissimilar to its companion as regards the position of objects.

Figs. 11 and 12 fully illustrate these changes of accommodation, together with the dissimilarity of the two retinal pictures. Fig. 11 represents the two retinal images, whilst the attention is directed to the most remote plane (the lettering on the wall), whilst Fig. 12 represents the two retinal pictures, whilst the axes of the eyes are turned upon a nearer object, (the drilling machine.)

It will be noticed that in the first pair of pictures

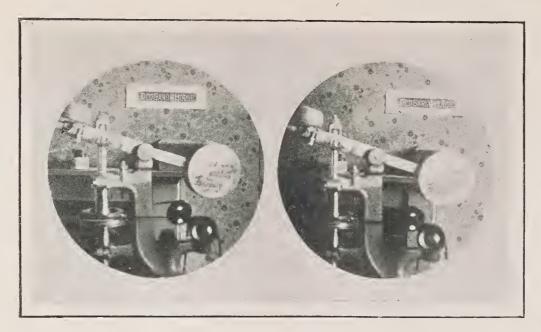


Fig. 11.

the near objects are indistinct and the remote ones clear, and in the second pair the remote objects indistinct, whilst the near ones are clear. Further, that by comparing the right hand pictures with the left, we find the position of remote objects in relation to nearer ones changed, viz: In the left picture the pot on the distant shelf appear to be on the left of the spindle of the drill, whilst in the

right picture it is seen to the right of the spindle.

It should be further observed, that whilst the eyes are accommodated to a remote plane, as in Fig. 11, all objects appear smaller than they do when the eyes are accommodated to a near plane, as in Fig. 12. We may now proceed to consider how far it lies within our mechanical means to make pictures in accordance with the laws of binocular vision.

We have seen that in nature we correctly appreciate all objects in the view before us by a continual change, not

merely of the eyes' axes, but also by a modification in shape of the crystalline humour, so that whilst the double impression is regarded as single, the image of the object of immediate attention may be clearly seen.

Although we cannot wholly fulfill these natural conditions and make so complete a presentation to the mind, we may at least, by close attention to what has been said, hope to avoid some of the erroneous ideas which exist with regard to the perception of relief and the possibilities of reproduction.

No doubt if we could by any possible means create an artificial demand for accommodation, an effect yet to be realized would be achieved; but as such a change in the optical combination is made necessary by the fact that objects are situated at different planes, and not merely represented so to be, by the agencies of proportion, perspective and shade, it is clear we must at present be content to present to the mind the effect obtained whilst the attention is directed to a specified plane.

Previous to the invention of the stereoscope it had long been noticed that the two retinal impressions received in binocular vision were not exactly alike as regards the relative position of objects situated at various distances from the observer. This theory was substantially supported by the introduction of Professor Wheatstone's instrument, by which a pair of geometrical

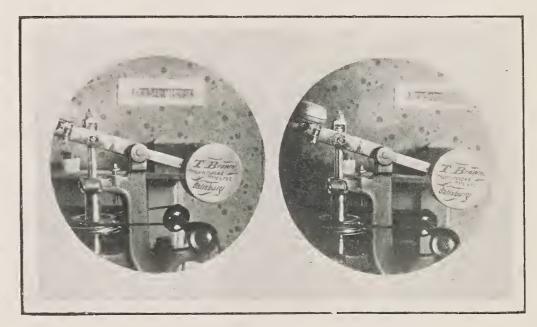


Fig. 12.

figures drawn in accordance with the supposition, could be simultaneously observed. Finding the theory to be correct, Sir David Brewster improved upon Wheatstone's reflecting device, embodying in his lenticular instrument the principle of refraction.

The discovery of the daguereotype process then opened the field for photographic reproduction and led to the degree of perfection we now enjoy.

But there is yet room for improvement,—improvement at every stage of the work, from the

apparatus in which the negative is made to the finished print in the stereoscope. We do not intend in these chapters to specify any particular apparatus as the best to be used for stereoscopic work. The foregoing remarks have shown the conditions it is desirable to fulfill, and the reader is left with such information to use his own discretion in the selection of apparatus. There is a variety of ways in which a stereoscopic pair of pictures may be secured, by simultaneous exposures and otherwise. We must pass on to mention some of the mistakes which have and are being made continually, and by observing these the reader will be led to avoid them.

When we remember that many of the binocular cameras still manufactured and supplied for stereoscopic work, lack the means whereby the lenses may be adjusted for near and distant subjects, it is not surprising to find amateur stereoscopists falling into various errors respecting the trimming and masking of their prints.

With all the improvements of the modern day camera, there is abundant evidence that some manufacturers need yet to learn the principle on which a stereoscopic camera should be based in order to secure the most satisfactory results in the stereoscope.

Since, however, thousands of cameras, more or less defective in principle, are now in the hands of the operator, it may prove of interest to suggest remedies whereby prints from negatives obtained in faulty cameras may be corrected.

It is quite recently we came across a whole collection of views, evidently the fruits from the same camera, for the following disagreeable effect presented itself on every slide.

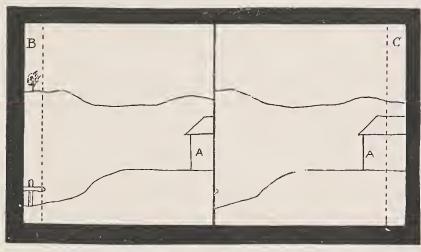


Fig. 13.

There was present at either end of the slide a portion of view, as at B and C, Fig. 13, altogether superfluous to the combined image in the stereoscope. Perhaps it would be more correct to say, portions of the print which should have been

occupied by objects not present were filled up with portions of the landscape which should have been excluded.

These views were obtained in a camera, not only lacking all means of varying the separation of the two lenses, but also with the lenses with their axes too parallel, as shown in the diagram Fig. 14. The reader will of course understand

panying diagram can exaggerates these conditions.

Suppose the view to be taken to lie between A and D. The left lens G, will take in a portion, A, B, not taken in by the right lens H, whilst the right lens covers a portion, C, D, not taken in by the left lens G. It is obvious, therefore, with a construction, such prints from the negatives after being transposed in the usual way, have on the outer edge of each pair a strip of view

Fig. 14.

absolutely unnecessary, whilst a portion that should have been there is altogether missing.

In the present instance the operator must be content with views a little narrower than the standard size, for although a sacrifice is made by cutting away the superfluous portions, the disa-

greeable effect otherwise produced is prevented.

[This article will be continued in the next number of the Magazine.]

STEREOGRAPHING CURRENT EVENTS.

The eminent photographer, Mr. H. A. Strohmeyer, who accompanied President Roosevelt on his southern trip, has secured many fine stereoscopic negatives of this interesting occasion, showing the hearty reception given to the President by the people of the South and including in a long list of important and historic subjects the presentation of a sword to Major Jenkins. Such a stereoscopic record as this is invaluable as a

vivid and permanent memorial of the prosperity and patriotism of the Sunny South, no one can view these remarkable stereographs without a feeling of gladness mingled with thanksgiving, that the old days of sectional bitterness and strife have gone forever.

UNCLE JOSH AND THE CAMERA GIRL. THEY FOTOGRAPH THE CALF.

Uncle Josh.

When the summer gal was down here with her kodax, I had a brindle calf down in 'th medder. He wuz mainly noted fer 'th length uv his legs, an 'th wobbly way he used them; he wuz uv 'th masculine gender.

Thet calf wuz jist old 'nuf tu be rambunkshus.' Th summer gal wuz determined tu take a picture uv thet calf, but 'th dodgasted calf wouldn't hol still fer her tu git a fokus on him.

Well one day she axed me wouldn't I hol 'th calf fer her; she sed she wuz makin' some studies in "still life."

I guess she didn't find much still life in that blamed calf.

I kinder hesitated, for I know'd what kind uv a critter he wuz, but she wuz a mighty purty gal, an when she made them hoo-doo eyes at me what culd I do?

Well, after wrastlin him all over a ten acre lot I got thet calf cornered an got a close line tied 'round his nech tu hold him with.

He didn't seem anxious tu be took, but with some stratigem and a liberal application of cow hide boot I finally got him in a "proper pose" as 'th gal called it.

She sed she wanted tu get dee tail in 'th picture and I didn't see how she culd help it fer thet calf had his tail stickin straight up in the air like a sore thum all the time she wuz takin him.

Jist as 'th gal got us placed right, and had got a good fokus on the kodax, a feller come whizzin past in one uv them naughty mobiles with the steam puffing out behind.

Well scat my ——, yer otter see that calf go. He started fer th' other side uv 'th medder like a streak uv greesed litnin' an he tuk me along part uv 'th way with him. Yer see 'th long end of 'th close line had got tangled round my laigs an when he started off so suddent like it jerked me ofen my feet an drug me along 'th ground till 'th rope broke an saved my life.

I guess I'd a swore if it hedn't bin fer thet summer girl.

Well, we fin'ly got M'ria tu help us; we cornered Mr. Calf agin an tied 'th close line good an tight an I held it. Then we tied the well rope on tother side an M'ria held thet.

I couldn't stand very natural myself on account uv of my pance, but I did 'th best I cud tu look unconcerned. When 'th pictur wuz dun 'th gal showed it tu us.

The gal sed I looked like "patience on a tombstone smilin at beef."

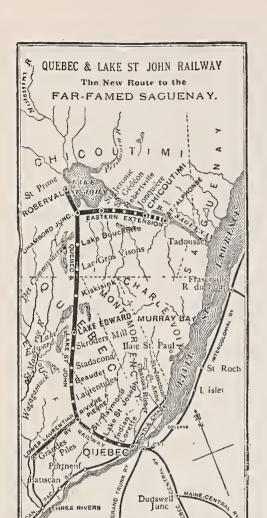
I wonder if she meant anything by thet.—Western Camera Notes.

SOMETHING WORTH CONSIDERING.

IT is important to notice that there is no paper that gives the fine gradations of tone necessary for stereoscopic work that albumen paper is capable of, but other papers are sometimes used because of economy. The cheaper processes require no silvering of the paper, and the toning of the gelatine surface is a comparatively inexpensive and simple matter.

We call attention to the positive and unequivocal statement of Mr. Thomas Bedding, Editor of The British Journal of Photography that "albumen prints make the beau ideal stereoscopic photographs." One reason for this superiority is that the porous body of the albumen paper thoroughly absorbs the gold solution, the picture becoming a part of the paper itself, instead of being a surface photograph, which only permeates the coating of gelatine. On this account, as will be readily understood, the albumen paper gives permanency and durability, while the gelatine print is more transient and can even be erased from the paper by the application of a little moisture.

It would be well for everyone who is interested in stereoscopic photography to read the article which appeared in the December number of the Magazine entitled, "Leaves from a Stereoscopist's Note Book," by Thomas Bedding, one of the most eminent photographic authorities in the world, and especially to give careful attention to Chapter IV of this article which treats the subject of the best paper for stereoscopic photographs. In these days the attempt to cheapen the work has also extended to the mounting of stereoscopic photographs. Conspicuous among such shoddy methods is one which was in vogue many years ago, but which was long since abandoned as unsatisfactory—that of mounting the print in one piece on the card. It is impossible to get the best results when stereoscopic photographs are mounted in this way, because a very unsightly line or blur shows between the two pictures, and in printing it is impossible to lay the paper on the negatives so that the point of the scallop (of the paper) will be exactly over the dividing line between the two pictures. Moreover, when the prints are dampened by thin paste, before mounting, the texture of the paper becomes flimsy and invariable it tears at the scallop, giving the stereograph a cheap and inartistic appearance.



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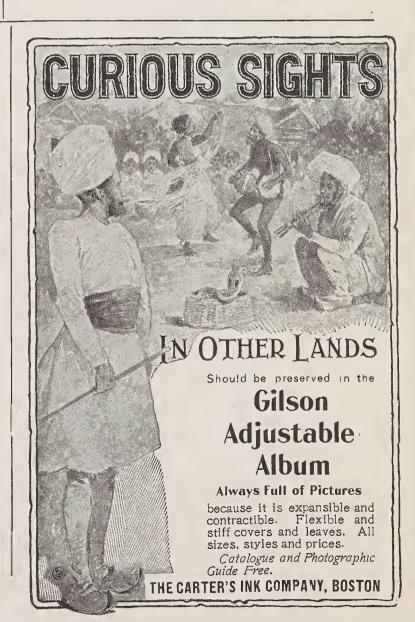
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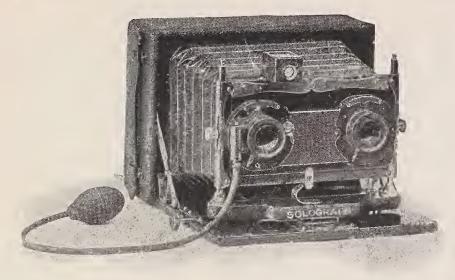
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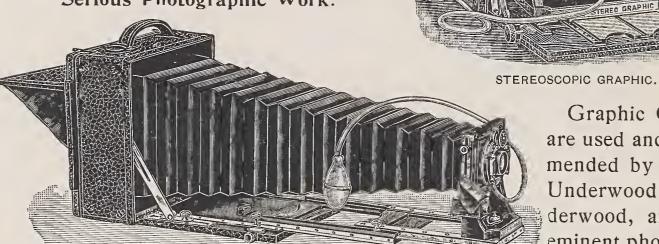
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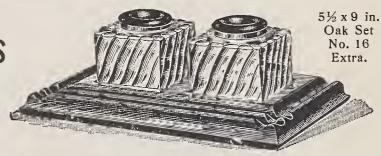
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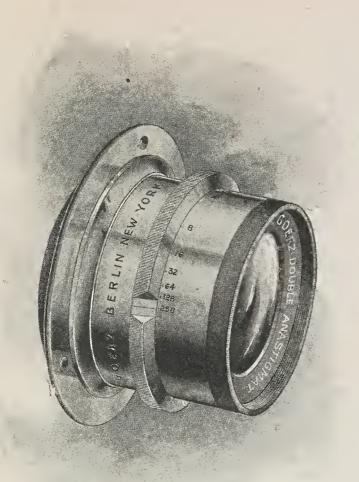
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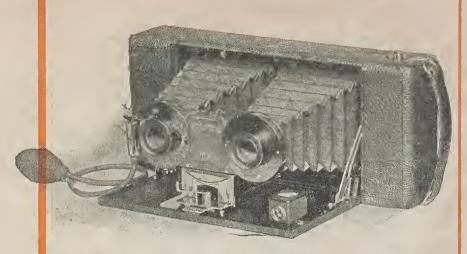
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